

JANUARY, 1921

THE MINING CONGRESS JOURNAL

VOLUME 7

NUMBER 1



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*Harding to Consider Westerr.
Man as Interior Secretary*

*Fuel and Oil Problems Hand-
led in Government Reports*

*War Tax Settlement Board
Urged*

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*Alaska Looks for Revival of
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*Larger Appropriations
Sought by Departments*

*Federal Taxation of the Min-
ing Industry*

*Representative
MARION E. RHODES
of Missouri, New Chairman of the House
Committee on Mines and Mining*

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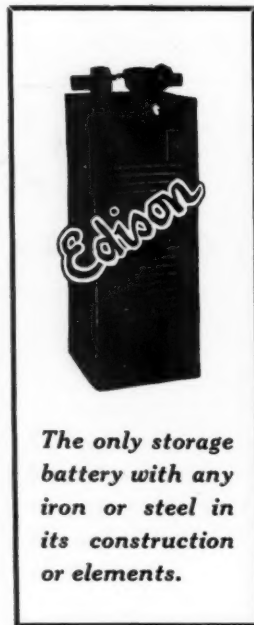
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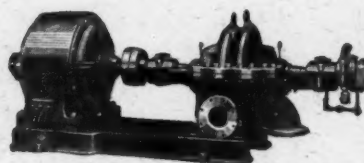
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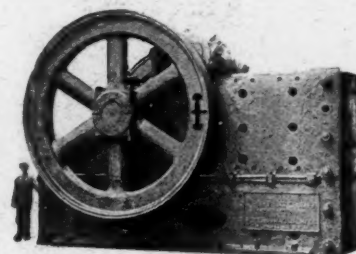
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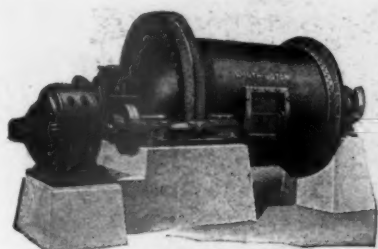
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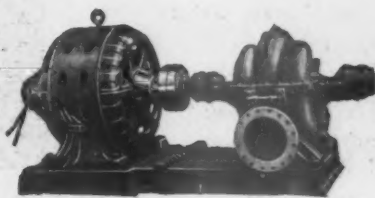
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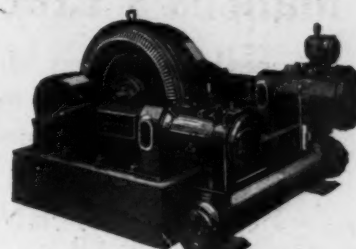




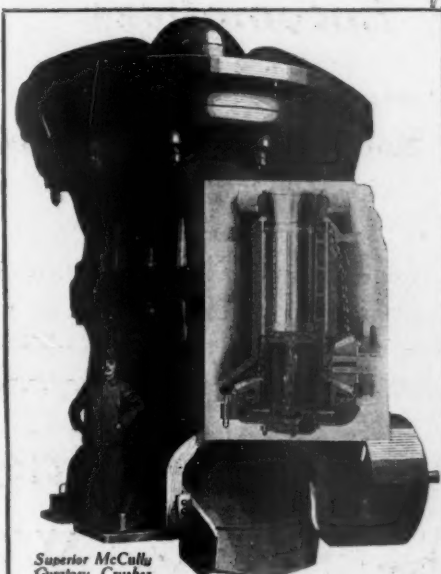
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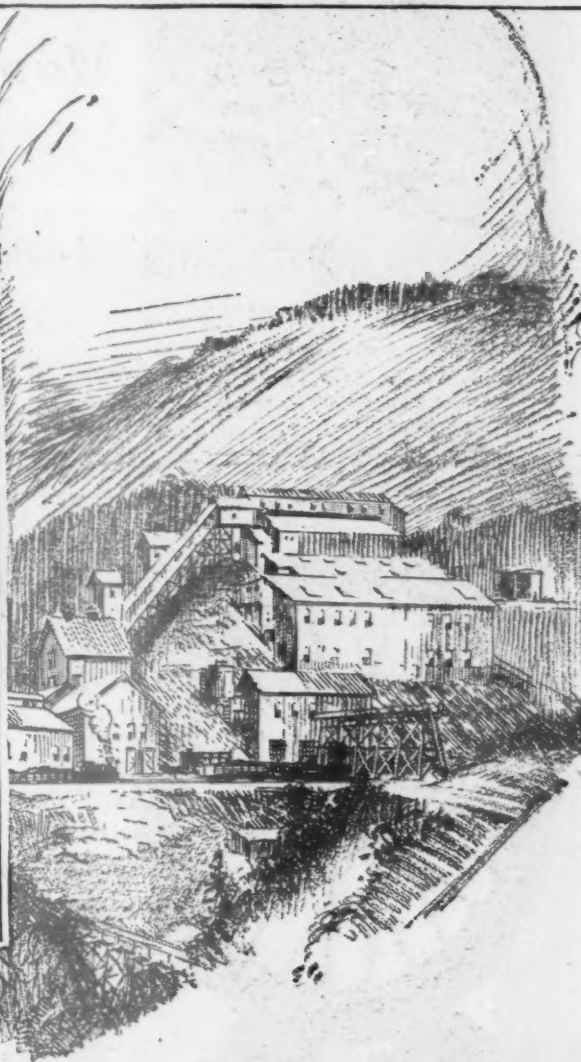


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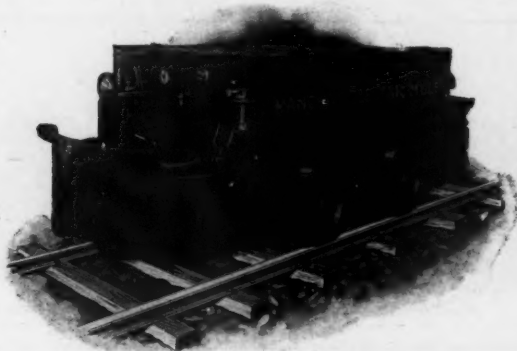
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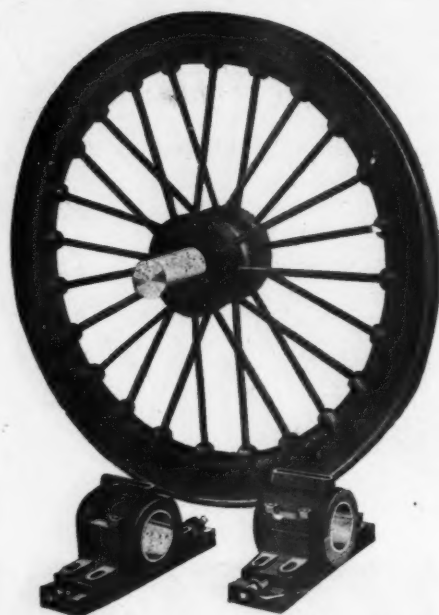
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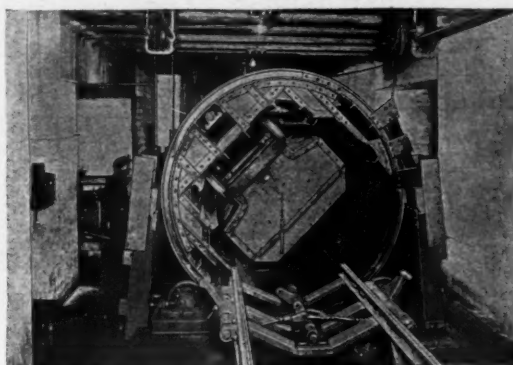
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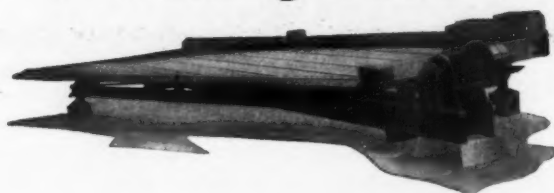
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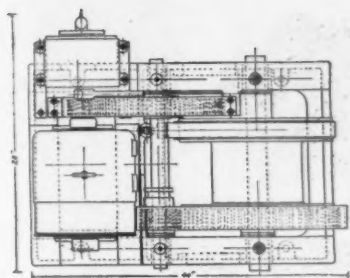
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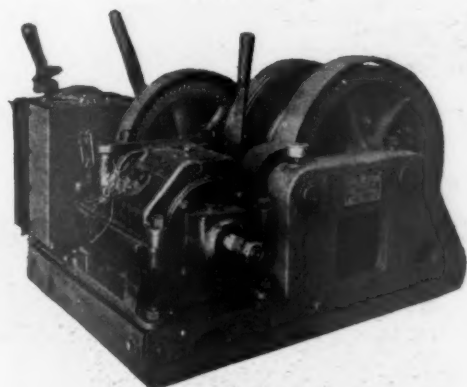
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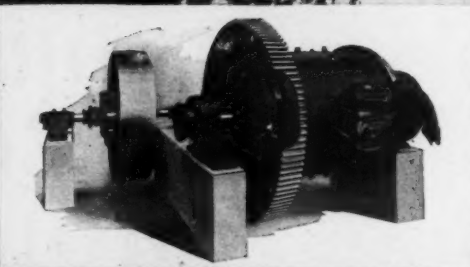


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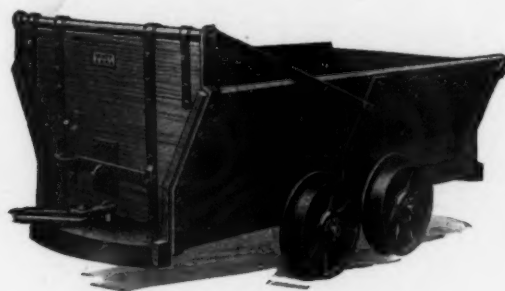


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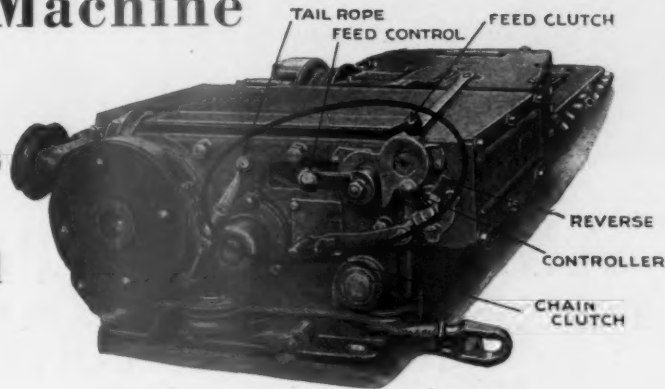
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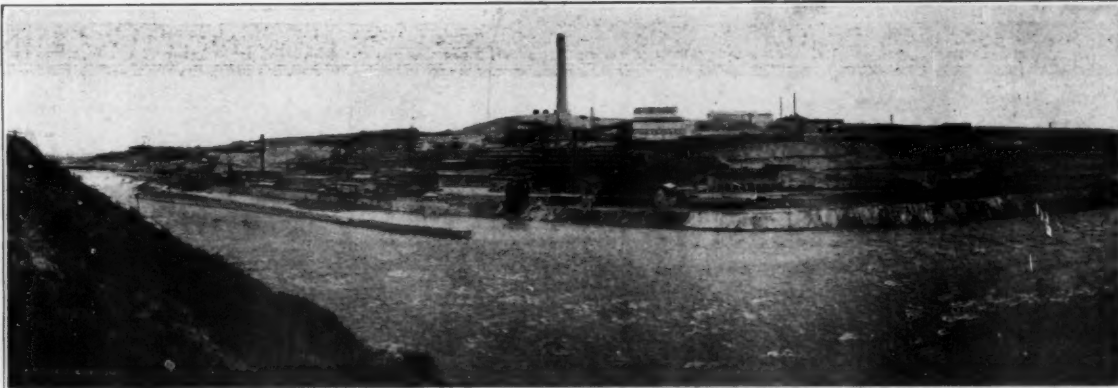
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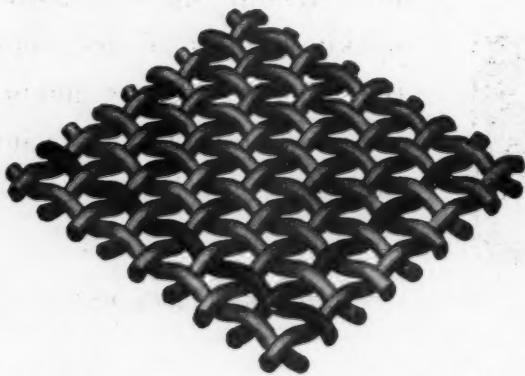
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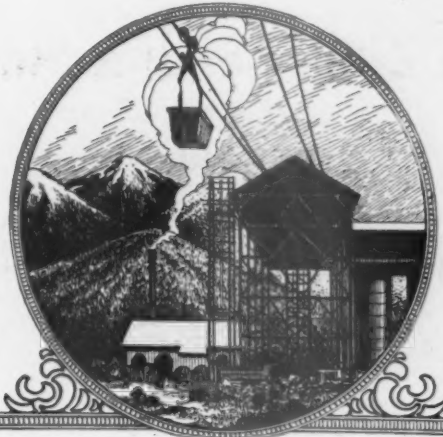
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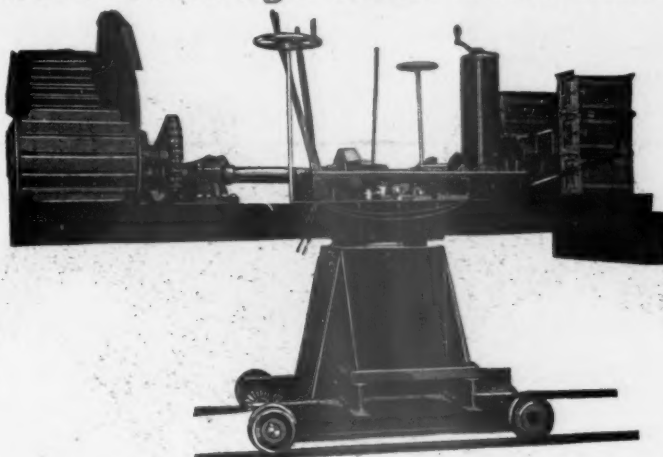
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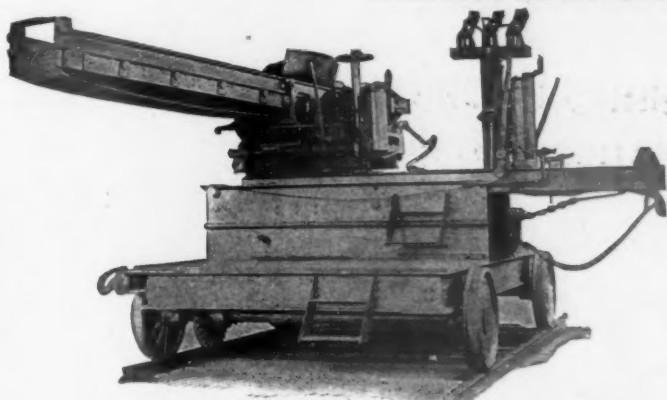
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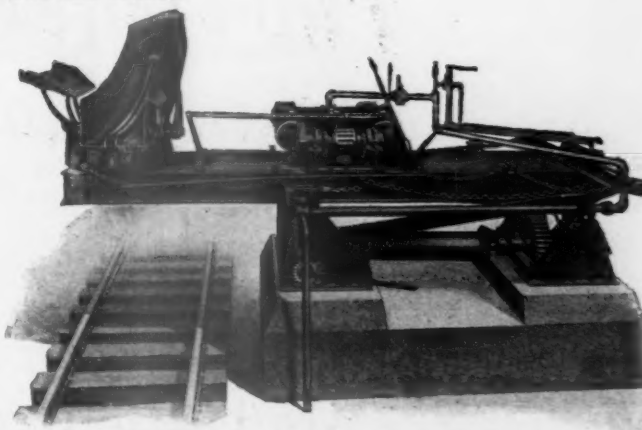
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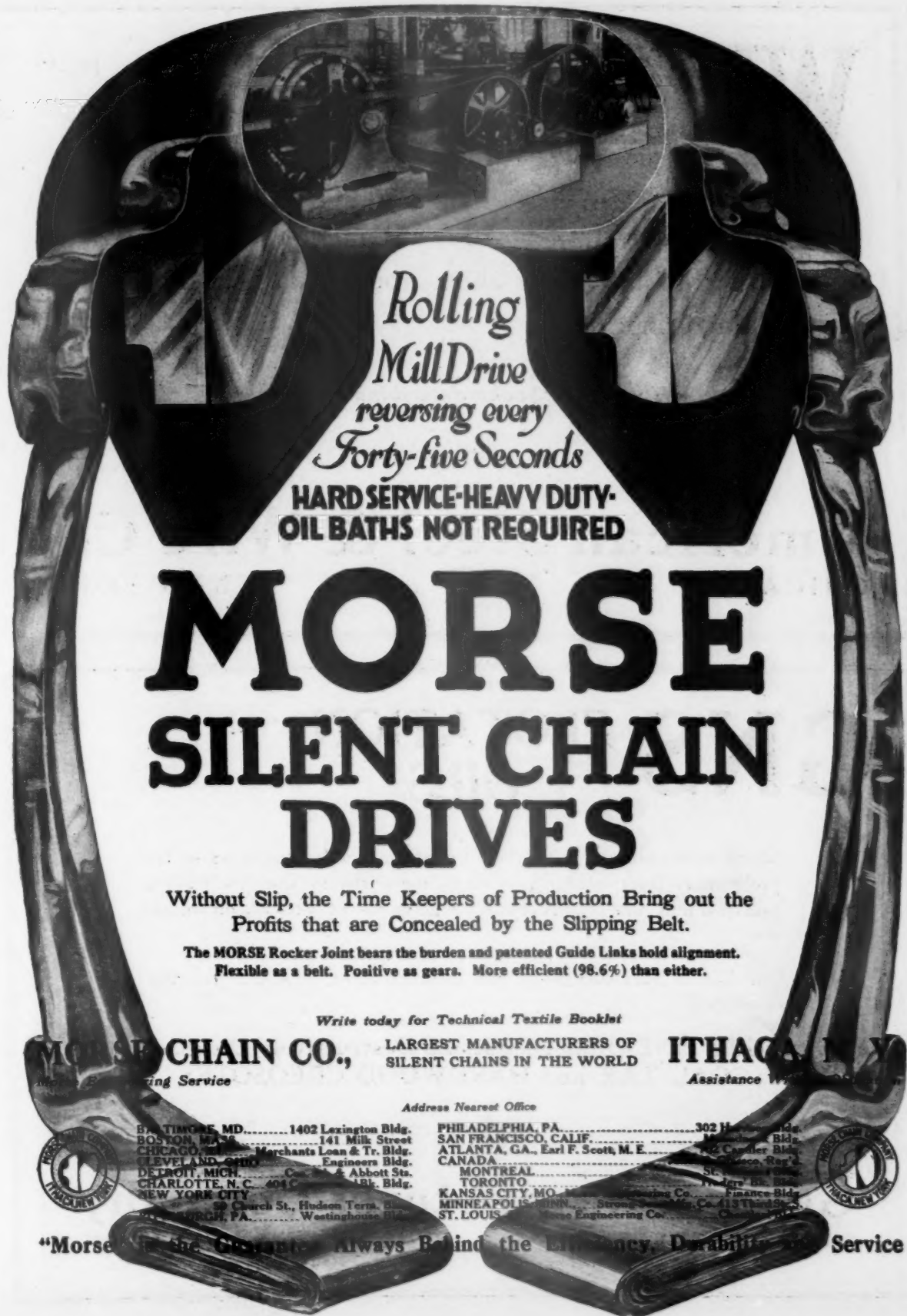
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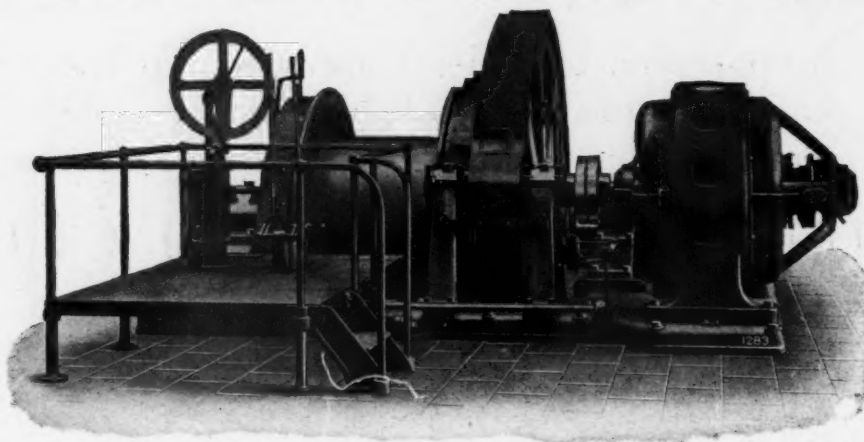
Owner or Operator	Location	Number of Ovens
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Illinois Steel Company	Joliet, Ill.	280
Illinois Steel Company	Gary, Ind.	700
Tennessee Coal, Iron & R. R. Company	Fairfield, Ala.	434
Minnesota Steel Company	Duluth, Minn.	90
Carnegie Steel Company	Clairton, Pa.	768
American Steel & Wire Company	Cleveland, O.	180
National Tube Company	Lorain, O.	208
Woodward Iron Company	Woodward, Ala.	170
Coal Products Mfg. Company	Joliet, Ill.	35
Algoma Steel Corporation, Ltd.	Sault Ste. Marie, Ont.	110
Inland Steel Company	Indiana Harbor, Ind.	130
Republic Iron & Steel Company	Youngstown, O.	143
Bethlehem Steel Company	Sparrows Point, Md.	360
Bethlehem Steel Company	South Bethlehem, Pa.	424
Bethlehem Steel Company	Steelton, Pa.	60
Laclede Gas Light Company	St. Louis, Mo.	56
Cambria Steel Company	Johnstown, Pa.	92
Toledo Furnace Company	Toledo, O.	94
Youngstown Sheet & Tube Company	Youngstown, O.	306
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McKinney Steel Company	Cleveland, O.	204
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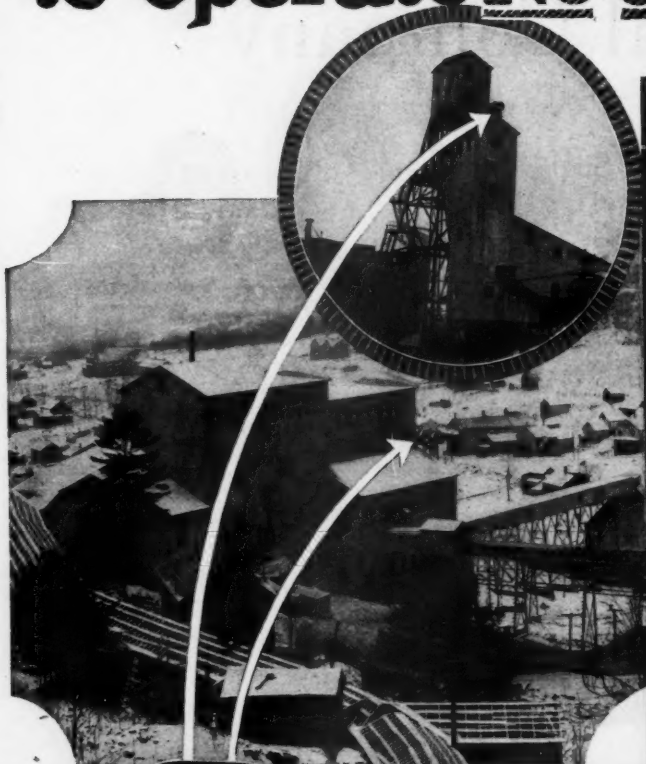
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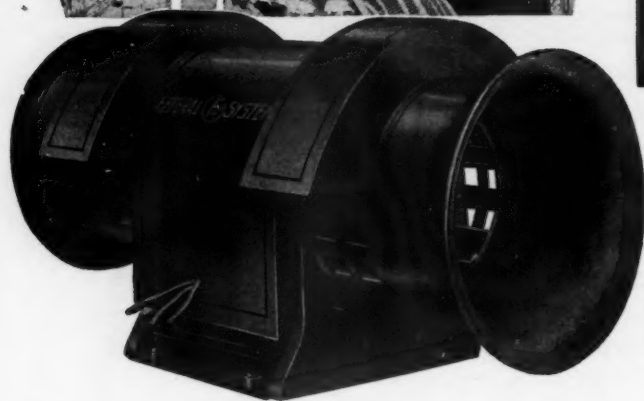
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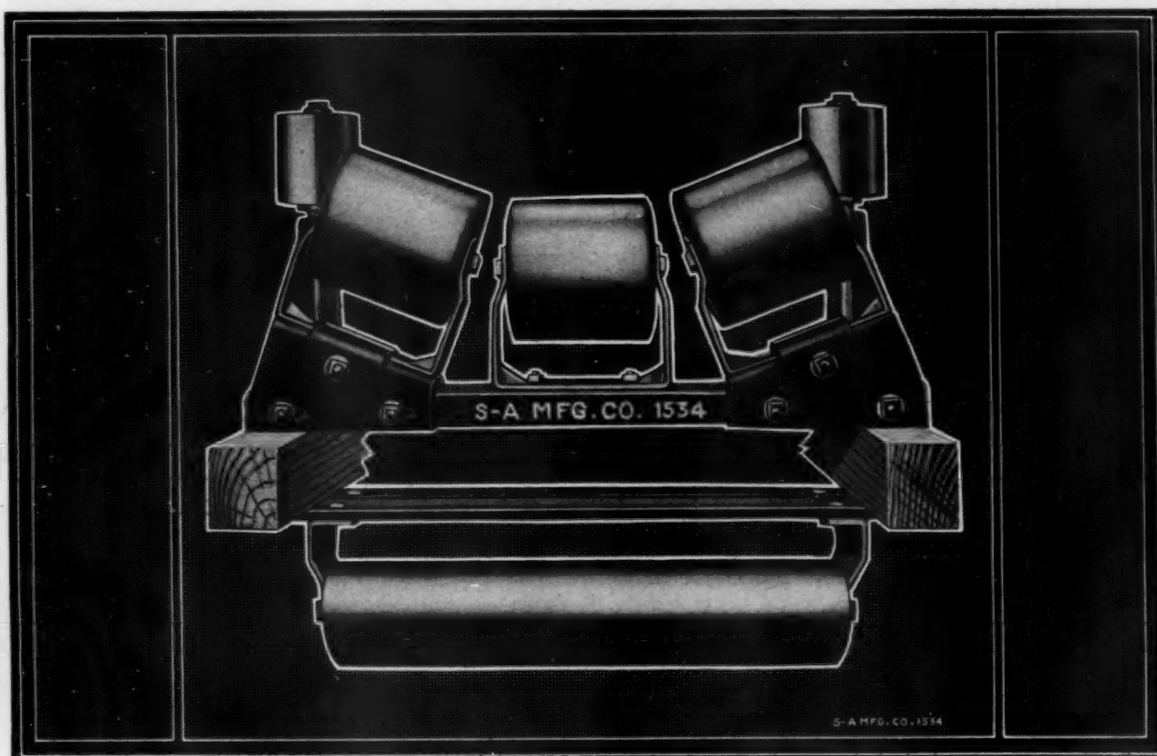
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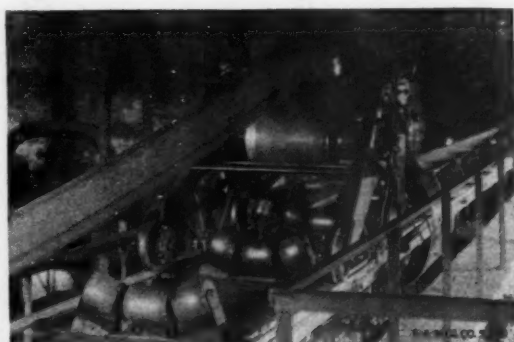
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Volume VII

JANUARY, 1921

Number 1

GOVERNMENT ECONOMY APPROVED

"The government does not pretend to live within its own income, only within ours."

THIS QUOTATION from the *Wall Street Journal* will excite public interest and those who really desire to keep within the taxpayer's income will applaud to the limit the statement of House Leader Mondell to the effect that \$1,400,000,000 shall be cut from the submitted estimates of \$4,653,800,000 covering departmental expenditures for the coming year. There are times when economy is a serious mistake. There are other times when all economy should be practiced in order to meet already burdensome obligations. In ordinary times it might be the part of unquestioned wisdom for the householder to paint his house, first for psychological reasons and, second, for preservation. But where the householder is facing the foreclosure of a mortgage it would be foolish indeed to borrow money to improve the house. Better first care for the obligations which cannot be escaped.

Let us first reduce the mortgage and afterwards improve the property. During the period of deflation, during the period when industries and trade will necessarily be slackened by the uncertainty as to whether bottom price levels have been reached or not, it is well to guard as carefully as possible against every unnecessary expenditure.

The American public will support Leader Mondell and those public officials who help in carrying out the program which he has announced. In this connection, the country will also approve the recent statement by Vice President-elect Coolidge to this effect:

"I am not in favor of the suggestion that has been made for providing a large establishment for the vice presidential residence. It seems to me that such things would be inappropriate at a time when we are all giving our thought to enforcing economies in both government expenses and private living."

Governor Coolidge is right. This is no time to seek new avenues of expense. Some day a suitable residence for the Vice President should be provided. Now let us prune down every expenditure, lop off every useless service, demand efficiency from and give better pay to all government employees who are necessary to the public requirement, and scatter out of Washington all those who are not so required. Those government employees who take the full four weeks' vacation and four weeks' sick leave on pay and manage to be sick just the four weeks permitted should be given opportunity to seek a more congenial clime.

A DIVISION OF MINES AND GEOLOGY

IN CONNECTION with the development of those natural resources which under the leasing bill remain under federal ownership, and in rendering proper assistance to the production, transportation and exchange of those mineral products now in private ownership but in the production of which the public is so keenly interested, it is vastly important that the agencies having to do with these matters should function in the most effective way. There should be no duplication of effort; each division of work should so nicely dovetail into other branches that there would be no waste; and every dollar of expenditure should lead to complete and efficient service. It is not only important that bureaus having to do with these matters shall perform their individual functions efficiently but it is sometimes vastly important that these services shall dovetail into governmental policies intelligently and effectively.

The production, transportation and exchange of the fuel supply of the country is necessary to industrial prosperity and to domestic comfort. Before the war the United States enjoyed the cheapest and the best fuel and power supply of any country in the world. This was developed without governmental interference, through the operation of the law of supply and demand. War conditions created an unprecedented demand and before these functioning agencies could adjust themselves to new conditions, a foolish governmental interference so disturbed the machinery that the country has suffered temporary want of fuel and a cost enhanced many times above what a proper administration of coal production would have entailed. A blacksmith's hammer was used to adjust the intricate operations of a delicately created timepiece. This is not a criticism of the function of the blacksmith's hammer, but it does demonstrate that to use unsuited agencies to direct the operations of agencies developed from the experience of thousands of trained minds applied to the subject brings ruin to the machinery and consternation to those who rely upon its efficient operation. The business of mining can be greatly benefitted by co-operative investigation of problems, the solution of which is of general benefit, but which cannot be investigated by each individual enterprise for the benefit of all. There is, therefore, a field in which governmental assistance is of unmeasured advantage. To define that field, to correlate these efforts, to bring each investigating agency into proper relation with others of its kind, needs even better facilities than are now available in our government organization.

To meet this idea the Denver convention of the AMERICAN MINING CONGRESS went on record in favor of a Division of Mines and Geology in the Department of the Interior, to be in charge of an Assistant Secre-

tary of the Interior, to be appointed for that specific purpose by the President. We believe that such a division would effect many economies of administration and bring about even greater public benefit than has already been given by those agencies which in recent years have served the mining industry. To know what should be done and to know where to leave the industry to manage itself without interference will require the brains and activity of a broad, capable man whose whole life shall be devoted to an effort to benefit rather than interfere with the mining industry.

THE POINDEXTER ANTI-STRIKE BILL

AS A PART of that governmental power which justifies the control of transportation rates and which undertakes to protect the public's right to proper transportation facilities, the Poindexter proposal must be accepted as within the government prerogative. Under present-day conditions, with the world's food supply limited at any one time to a few months at most and with certain necessities in our larger centers of population limited to the day's importation, the power to limit transportation facilities and thus cut off the supply of life's necessities at any populace center should not be permitted through joint action which amounts to a conspiracy under the strike provisions of the Sherman anti-trust law. To quote from a previous editorial reference:

"The right to strike is a qualified right which ceases and becomes a conspiracy against the government when it interferes with the production and distribution of the necessities of life."

The Poindexter bill, in effect, prohibits such a conspiracy. It provides that whoever with intent to destruct, delay, hinder or prevent the movement of commodities in commerce shall by word of mouth or printed circular advise or induce or attempt to induce any employee to quit his employment, or who shall by like means undertake to prevent anyone from engaging in employment; or, whoever shall injure or destroy any agency of commerce, or who shall attempt to induce others to do so, shall be deemed guilty of a felony punishable by heavy fines and imprisonment; and further, that it shall be unlawful for two or more persons who are the officers or agents of any common carrier to enter into any combination or agreement to substantially hinder, restrain or prevent the operation of trains for the movement of commodities in interstate commerce.

The right of every individual to quit work is inherent but the power of a majority of the members of a union to require the individual worker, against his will, to submit to their dictation is subversive of the fundamental principles of liberty.

This majority of the membership of a union is but an infinitesimally small minority of the citizenship of the nation. Any man who owes a greater obligation to his union than to his country is an undesirable citizen and should be deported. Ours is a government of the people in which the majority must rule; not a majority of a minority, but a majority of the citizens of the nation. That majority selects by ballot its officials whose duty it becomes to protect all citizens in their inherent and constitutional right to "life, liberty and the pursuit of happiness." These rights cannot be preserved to the citizens of our great industrial centers except by preventing strikes which deprive these centers of necessary supplies of food. The Poindexter bill undertakes to preserve those rights. The recent election

demonstrated quite effectively that this nation does not approve the insistent demand of organized labor that it shall be allowed to direct the destinies of the nation, nor to remain in position to strangle the nation's life whenever in its judgment such course will enhance the cause of organized labor. The conditions surrounding the enactment of the Adamson law have not been forgotten. The enactment of the Poindexter bill will be an effectual crystallization of public sentiment as expressed by the last great public referendum.

A HELP TO GRADUAL DEFLATION

THE PROPOSAL for immediate tariff legislation which will protect our home markets against too radical price deflation finds two justifications, first, that unless some encouragement is given our domestic industries, production is likely to fall to a point where price levels of the future will be higher rather than lower than at the present time; second, the necessity of such legislation for revenue purposes appeals with distinctive force as a relief from the enormous tax burdens which must be borne by the public.

Incidentally, until such time as normal levels are reached, there would seem to be strong reasons why importers should pay to the government the full value of the advantages offered by our markets. During the war it was vigorously urged that no embargo should be made against the importation of Brazilian manganese, the appealing part of this argument being that Brazil furnished a market for our fabricated products with high valuations and that we must accept in payment her manganese ores which were of higher grade and more cheaply mined than our own. The logic of this argument, however, does not carry with it the belief that unmanufactured foreign products should be sold in our markets at prices in excess of the cost of production and transportation with a reasonable profit. The government is entitled to receive at least a good share of any excess profit which our markets make available to foreign production. Under the present governmental requirements for large revenues, no reasonable source of indirect taxation should be overlooked.

The winding road down the hill is safe while a fall over the precipice is dangerous and perhaps fatal.

Price deflation must be gradual and steady if we are to avoid industrial disaster.

THE INTERIOR DEPARTMENT

THE INTERIOR DEPARTMENT has been the Jack-of-all-work to which every government service has been given which was not wanted elsewhere. Its natural function would be the control and development of the interior resources of the nation with a view to their highest conservation and use. It is the home department designed to have jurisdiction over the domestic affairs of the federal government. Originally its chief function was the management and disposal of the public lands. The recent enactment of the public lands leasing bill by which the most valuable resources of the government—its fuel and power resources, shall continuously remain in the control of the government puts upon that department a greater responsibility than entailed by all of its previous activities. We cannot believe that anyone with a vision of the true nature of those responsibilities could for a moment believe that this department should be abolished and all of these responsibilities turned over to some inconsequential agency in order to take charge of the much more restricted obligation presented in the construction of

its public works. The resolution of the Denver convention upon this subject is as follows:

WHEREAS, More than one-half of the acreage of the United States west of a north and south line drawn through the eastern border of Colorado is now owned by the federal government; and

WHEREAS, The enactment of the Public Lands Leasing Bill creates a continued responsibility upon the federal government in handling the public lands of the West; and

WHEREAS, This vast expanse of territory contains more than 3,000 million tons of coal, untold oil reserves, oil shale deposits of unmeasured value, water power, measured in production force, many times greater in value than its oil, oil shale and coal reserves combined, and immense deposits of phosphates and other minerals; and

WHEREAS, The administration of these vast resources will require an increasing service from that department which is charged with the work of supervising the development of the Rocky Mountain and Pacific Coast western states, namely, the Department of the Interior; and

WHEREAS, A proposal has been made looking to the discontinuance of the Interior Department and the creation in its stead of a department of public works;

Now, therefore, be it resolved, That THE AMERICAN MINING CONGRESS in its twenty-third annual session assembled in Denver, Colorado, November 15-19, inclusive, enters its protest against the abolition of the Interior Department and urges that the Interior Department shall be continued for the above weighty duties and as that department through which the mining industry of the United States shall function in federal affairs.

The MINING CONGRESS JOURNAL commends this proposal to Congress as embodying a governmental necessity and as representing the thought of the great west. The development of our natural resources is an essential part of the continued progress of this great nation. The proper conservation of our resources, which means the highest use and the least possible economic waste, is not a task to be lightly considered. After the protection of our national Constitution from the vagaries of Bolshevik thought, the next most important thought is the development of the wonderful national resources upon which the industrial prosperity and consequently the happiness of this people must be founded.

IMMIGRATION

THE CONSERVATISM of the United States Senate has been frequently attacked as not being properly responsive to the public will and there are many people who believe that it should be possible to amend even the Constitution to meet the passing judgment of the people. It is argued that in a government "of the people, by the people and for the people" that an expression of the public will should immediately crystallize itself into legislative enactment. The framers of our form of government, to whose super-judgment every country of the world now pays tribute, provided that the Constitution should not be amended except by processes which required a considerable duration of time, in order that it might be a register of settled public opinion rather than a hysterical conclusion based upon a temporary issue. Those same founders of the republic provided that the United States Senate should be far enough away from the popular clamor as not to be unduly influenced by passing agitation. The writer cannot believe that our form of government was strengthened by the popular election of our Senate. The conservatism of the Senate will be tested by its action upon the proposed immigration bill, providing an absolute prohibition of immigration for a period of two years.

Many good men are favoring this legislation without a proper consideration of the facts. Under the guise of keeping undesirable citizens away, we are proposing to prohibit both desirable and undesirable immigration. This is an expanding country. Very fortunately it provides facilities for educational advancement which makes its possessor unwilling to perform menial labor. Our civilization is a series of ladders enabling the lowest in rank, if possessed of ambition, thrift and industry, to climb to the top. The children of these progressive immigrants with the advantages of high school education are not as a rule found performing common labor. Unless these callings are supplied from elsewhere than our high schools, we shall surely be without that class of labor which builds our railroads and operates our mines. This character of work is fundamentally essential and to close our doors to proper immigration is to leave us without a proper supply of common labor.

The agitation for legislation prohibiting immigration comes principally from organized labor which, through this course, will strengthen its control. It is frequently desirable to get back into the country and away from industrial centers to learn public sentiment freed from the influences of either organized labor or organized capital. The following quotation from the *Republican Watchman*, a Sullivan county (N. Y.) publication, will be of interest as illustrating what unbiased people think of the situation. Under the title, "Stop Immigration," the editor voices the following sentiment:

Shall the United States stop immigration? Yes and no. Yes, as to undesirables and no as to desirables.

If the bill approved by the house committee is passed by Congress the influx will be virtually stopped for the coming two years. Of course, an exception is to be made in favor of certain classes, but they will constitute a small number. Those exceptions mean the parents, grandparents, sons and daughters of the citizens of the United States.

Hundreds of thousands of foreigners are only waiting for a chance to come to this country. They have been told by steamship agents and written to by friends of the opportunity for labor in the United States. They have been told that carpenters receive \$16 a day and farm hands were paid \$25 a week and common labor received 50 and 75 cents an hour, and the story told them was true—true then, but not true now and neither will it be true next year. To pass a law protecting labor for two years is reasonable—that is, it is reasonable, if labor desires to work. But if half of labor is on a strike half the time as it has been during the past two years, then labor needs no protection by Congress. Under such conditions it is the employers who need protection and the only way to protect them is by foreign labor. The mines must be worked; the farms must be farmed; railroads and auto roads must be built, and common labor and skilled labor must be had. If employers can't get labor here the old country must furnish it.

The sentiment expressed above is worthy of careful consideration of the United States Senate. It is hoped that proper safeguards shall be placed against the introduction of undesirable aliens, but until the supply of common labor is sufficient to meet industrial requirements that desirable immigration shall be encouraged. It is hoped that the conservative judgment of the Senate will give due consideration to the industrial needs of an expanding and growing country, where labor is as necessary as brains and capital.

THE PSYCHOLOGY OF THE NICKEL

NOT MANY YEARS AGO the most persistent subject of municipal agitation grew out of the protest of the public against the public utility corporations. A nickel service for telephones and street car rides was in many instances believed by the public

to be excessive because of the fact that the corporations controlling this service were able to add to the wealth of the promoters and create funds through which these companies might contribute to political corruption in an effort to control the city councils which were authorized to grant franchises and to determine the question of rates. Gradually these agitations led to a policy by public utilities corporations to withdraw from politics, to take the public into their confidence, to satisfy themselves with a fair profit upon stock, watered and otherwise, the public being reluctantly willing to let bygones be bygones, to start upon a new basis, to permit the companies to use their excess earnings above operating costs in extensions and betterments, and in practice leading to better service, better satisfaction and cleaner politics. Then the increased cost of operations, growing out of higher price levels, created financial difficulties for many of these companies and the right asked for to increase rates.

The best earnings of a street car company are upon its short hauls. The haul of a passenger several miles for a nickel probably means a loss to the operating company, while the transportation of that passenger for a few blocks may mean an extraordinary profit. The inconvenience of a six, seven or eight cent fare as compared with the nickel means that the street car company in many instances will not be patronized for the shorter distances. There is a psychology in a nickel price, which leads to its willing payment, while a price of six cents, which means two coins instead of one, may lead to a great diminution of that kind of travel upon which there is the greatest profit.

The history of the Capital Traction Company in Washington as developed by a statement from its president before the Utilities Commission is a demonstration of the position of the MINING CONGRESS JOURNAL, that an increased price for public utility service does not mean increased profit to the operator, does not mean increased service to the public, but does mean an increased cost of operation which benefits neither the corporate owner nor the public and its benefit to those who absorb the additional expense is a matter to be seriously questioned.

To make the situation clear, it must be stated that Washington has two systems of street car service. One system at a five-cent fare was making an adequate profit and so stated before the Utilities Commission. The other company, partially because of labor strikes which had crippled its equipment and disorganized its service and partly for other reasons, found itself operating at a loss with a five-cent fare. To increase its charge for service without increasing that of the profitable company meant an increased patronage of the five-cent line and a loss of business to the one making the increased charge. It, therefore, in the judgment of the Utilities Commission, became necessary to advance the fare of both companies to eight cents. At this time the weaker company is making application for a still further increase of its charges, while the better-managed company, through its president, now states that it would be impossible for his company to go back to a five-cent fare and pay operating expenses.

Since the increased fare was authorized price levels and the cost of operation have not increased, while it is probable that efficiency of service has increased. The increased fare has led to an increase in operating expenses from which the public receives no advantage and while the wage-earning public must pay higher fares which will in turn justify a higher wage. High price levels for public service are an obstacle in returning to normal conditions. The psychology of the nickel

should be given proper consideration in fixing the price levels of the future.

GOVERNMENTAL INTERFERENCE WITH COAL

GOVERNMENT INTERFERENCE in any business not affecting the safety and morals of its people is unwarranted, except in times of great emergency. Government control of prices is always unwise unless perhaps it may be in those fields where there is a monopolistic control of nature's supply of raw material. Even in these latter cases a too high price upon the product, the control of which makes impossible competitive production, usually leads to the creation of substitutes which sufficiently satisfy the public in that behalf.

Exception may be made in those public utility services which are necessary monopolies and which service is necessary to the public comfort and convenience. In the present investigation of the coal business ridiculous indeed are the amateur opinions advanced by men made prominent through political acumen and who assume to have learned more of the coal business through an investigation, largely directed by muck-raking advisors, during a period of two or three months, than men of equal or greater ability who have concentrated their life's effort in practical coal-producing operations. It would be well for the public interest if these men could be impressed with the teaching of all history in matters of this sort, that the law of supply and demand cannot be disregarded without disturbing in a dangerous way the machinery of competitive production through which prices have ever been brought to a normal basis.

There are now in operation in this country approximately seven thousand coal mines. There are approximately fifteen thousand operations available for immediate coal production, if the wagon mines are to be included. During the war, production and transportation machinery was disorganized, partly by the stress of war conditions but more largely by governmental interference.

The presently developed facilities of coal production in this country make possible an annual output of nearly 800 million tons of coal, while the possible consumption, including all coal which it is possible to export with our present port facilities, is less than 600 million tons. With all of these facilities for the unerring operation of the law of supply and demand, the statesmen who are considering this problem seem not to have given any consideration to the theory that price itself will regulate production. Where the price is too high over-production will quickly follow and where the price is too low production will quickly and certainly be reduced.

Reduced production will lead to a shortage of supply and an increased market price, which in turn will again stimulate over-production. As an illustration of this principle, the zinc situation in the early days of the war may be cited. Prior to the war over-production of zinc depressed the market to a point where only the high grade mines could operate at a profit and a consequent falling off of production found the country at the opening of the war with small zinc stocks and production abnormally low. The excessive war demand immediately forced the market from approximately 6 cents per pound to a high point of 27 cents per pound. Had the war price regulating boards been then in operation, it is quite certain a price would have been fixed at perhaps 18 or 20 cents per pound, being theoretically high enough to stimulate the required increased production

and this price would undoubtedly have remained for a considerable period and probably throughout the war. Fortunately for the government there was no price-fixing board then in existence and this enormous over-price so stimulated production that within the first year prices had again dropped to a 9-cent level.

If the senatorial investigating committee could grasp the more fundamental principles of economics it would devote itself more to the removal of governmental business interference by which the law of supply and demand could operate without restriction rather than add to those governmental interferences which are largely responsible for the present unsatisfactory conditions in the coal trade. Sufficient indeed is the congressional responsibility to put "More business in government," and this task properly performed will leave little time for putting "Government in business."

IMPORTANCE OF GOLD PRODUCTION

FUNDAMENTALLY all business prosperity depends upon that greatest of early inventions—money. The present day business exchange of the world could no more be carried on without a medium of exchange than our industrial production could be met with the primitive tools of ancient days. The inventive genius of the ages has to its credit no more important accomplishment than the creation of means by which values may be measured by a common denominator, easily handled and universally representing the same value.

Today there is but one standard of value throughout the civilized world. Upon that foundation of gold reserves, partly because of the war, partly through monopolistic control first and for many years by industrial magnates and later by labor magnates, effort has been made to raise the price of commodities to a point where greater profits might accrue for the benefit of this monopolistic control. During recent years the world war has accentuated the price-increase process beyond all anticipation.

In the end the value of all products must and will be measured by the device known as money. Money, so-called, includes both the real money and the circulating medium which is accepted as money. In the end, however, the credit part of this circulating medium must not be so great as to make impossible its ultimate redemption in that real money which is the only kind accepted universally through civilized countries, viz., gold.

Money, to be accepted at its face value, must carry a positive guarantee of redemption in gold when called for. The greatest cloud upon the horizon of an enormous industrial prosperity is the lack of sound money throughout the world with which to meet the enormous debt burdens entailed by the war and at the same time meet the credit requirements essential to industrial activity.

Perhaps copper offers the best illustration of this condition. During the war some European countries stripped the roofs from their buildings and melted down fabricated products containing copper in order to meet the requirements for manufacturing war munitions. The manufacturing cost of these materials was several times greater than the value of the copper contained therein. Parts of Europe stripped of her copper supplies, with her industrial machinery devastated, need and must have an enormous supply of copper to rebuild her prostrate industries. This country holds enormous copper reserves awaiting markets and perhaps held as

security for loans upon which the copper industry is paying interest, awaiting the time when European finance can be so rebuilt that the purchase of the American supply of copper is possible.

What is the fundamental difficulty which prevents Europe from regaining her formal credit position? The immediate answer will be that because Europe has wasted and destroyed so much of her resources by war activities, she is now unable to command the confidence, or, in other words, the credit which will enable her to buy the necessary supplies for the recoupment of her industrial enterprises.

The United States was also in this war. Her losses and waste, proportionately, were on a par with other nations and during the time of her participation were proportionately much greater than other nations because of her high costs of production, her Hog Islands, her cost-plus-10-per-cent plan of operation, not to speak of the unrighteous demand of labor for unheard of wages for slack production.

Those supplies which we manufactured and sold to Europe on long-time credits must be included as a part of the shortage with which the country must now reckon. The large volume of credit extended to Europe played no small part in swelling our domestic credit and currency structure, an inflation which automatically made possible the rapid and extensive rise in all commodity prices. The difference between this and European countries is largely measured by the difference in gold reserves. Prior to the war, the United States held approximately one-sixth of the world's gold stock, and, during that period, the credit of most civilized nations was on a par with that of the United States. At this time we hold approximately one-third of the world's gold stock and our money is kept at par while the money of practically all other nations is at a discount. Is it not fair, upon these facts, to assume that the greatest need of the world today is an increase of its gold supply and that the world's need reacts upon our own industrial prosperity in such a way as to at least partially rob us of the advantage which grows from having temporarily more than our share of the world's gold? The gold question is not new. When the credit of this nation was almost as low in its standing as the present credit of Germany; when it was commonly stated that a hay-rack was required to haul to market the money necessary to buy supplies to be brought home in a basket, the discovery and production of gold in California and Colorado, restored the financial stability of the nation.

The financial and industrial depression which followed the Civil War was turned into prosperity, our business was put upon its feet and the greatest industrial expansion and financial growth ever known to any country in the history of the world was predicated and built upon the gold and silver production of California, Nevada and Colorado. Now we are reversing this process. We now find that the country's production of new gold for 1919 was but 60 millions, 19 million dollars less than was withdrawn for other than monetary purposes. We are permitting our gold production to be annihilated by the economic stress of the times. We are facing a withdrawal of part of our present gold by those European nations which must have a basis of credit if they are to revive their prosperity, pay their debts or ever be in position to do business with us. European financial stability is necessary if we are to find in foreign markets an outlet for that excess of production which this nation must have if its industrial machinery is to be kept in operation.

The United States needs to retain undiminished its normal supply of gold if its present currency medium is to remain upon a sound money basis. To accomplish this, the production of new gold will greatly assist in supplying the natural and necessary drains to those foreign countries whose need for gold is very much greater than our own. That need may be measured by the present gold value of the currency of European countries. With the continuation of a free gold market, gold will naturally seek that place where the highest value is placed upon it. A free gold market is essential to the maintenance of the gold standard and it well behooves our legislators to so stimulate gold production that the value of our own currency shall always remain at par.

GENERAL LAND OFFICE REQUIRES VERSATILITY OF ITS MEN

COMMISSIONER CLAY TALLMAN of the General Land Office says in his annual report that the work of the field service is no longer a matter of examination of public land claims, as public land legislation of recent years has required the services of men having technical qualifications along mining, reclamation, hydraulic and chemical engineering, geology, gauging, accounting and valuation lines.

The commissioner refers to suits handled during the year, among them one involving 6,107 acres of oil lands valued at \$10,000,000 in California, and nine others involving 1,396 acres of California oil lands, in all of which decisions were rendered in favor of the government. In Utah a compromise was reached in a suit against the Denver and Rio Grande Fuel Company by payment to the government of \$44,244. Among indictments returned was one for coal trespassing in North Dakota.

During the year 477 mineral surveys, embracing 1,875 lodes, were made. Hydro-electric power permits were granted under the act of February 15, 1909, to the Ophir Mill Consolidated Mining Company for a power project in Utah. The acreage included in mineral entries approved during the year was 52,600. Eighty-five contests were received and 108 disposed of, leaving eighteen pending at the end of the year.

A part of the Cook Inlet coal field was surveyed and divided into nineteen leasing blocks containing 9,500 acres. One lease was awarded. An additional block of 565 acres in the Nenana Field was surveyed, for which a lease has been awarded. An application to lease 2,040 acres in the Bering River Field and another to lease 1,080 acres in the Matanuska Field are pending. There is under lease in the Bering River Field 4,500 acres; Mantanuska, 2,840; Cook Inlet Field, 1,400, and Nenana, 565.

Coal land entries covering 6,256 acres were approved for patent.

The commissioner says the mineral leasing law marks the beginning of a new epoch in the handling and distribution of the country's natural resources. He says the Mining Acts of 1866 and 1872 were the greatest contributory factors to the unprecedented development of the productive resources of the country in the last fifty years, particularly in the west.

The commission reports that during the year 2,797 acres were withdrawn for coal classification and 1,293,307 acres previously withdrawn were restored. There were no withdrawals on petroleum, potash or oil shale, while 954 acres of withdrawn oil lands, 89 acres of potash and 3,880 acres of oil shale lands were restored.

HARDING TO CONSIDER WESTERN MAN FOR INTERIOR PORTFOLIO

IN RESPONSE TO A LETTER from the AMERICAN MINING CONGRESS, President-elect Warren G. Harding instructed his secretary to say he would consider carefully the claims of the west in choosing a new Secretary of the Interior.

The correspondence follows:

December 8, 1920.

HONORABLE WARREN G. HARDING,
Marion, Ohio.

MY DEAR MR. HARDING:

Permit me to present to you a situation in which I feel sure you will be interested.

The Rocky Mountain west has an intense interest in the work of the Interior Department. It is particularly interested because of the peculiar problems which the development of its natural resources present.

It is therefore greatly concerned in having a man selected as Secretary of the Interior who understands those problems peculiar to the western mining and arid land states.

In these states two systems of law prevail which are unknown elsewhere, viz.: the Mining and Irrigation laws; the first embracing the principle of extralateral rights embodied in the mining law; the other the principle of the appropriation of water to a beneficial use, as contravening the doctrine of riparian rights which prevails elsewhere.

The AMERICAN MINING CONGRESS has no candidates to recommend but it does earnestly urge that in the selection of a Secretary of the Interior you shall choose from among those who understand western conditions and who will therefore be better able to intelligently co-operate in the development of western resources.

The importance to the west of a proper selection of a Secretary of the Interior has been greatly intensified by the enactment of the leasing bill, by which the great dormant wealth of the west—its coal and oil reserves and its water powers—are forever to be supervised by the federal government.

If our organization can be of any service to you in this behalf, we shall be glad to place ourselves at your command.

Very respectfully yours,

THE AMERICAN MINING CONGRESS,
J. F. CALLBREATH,
Secretary.

MARION, OHIO, December 13, 1920.

MR. J. F. CALLBREATH, *Secretary.*

THE AMERICAN MINING CONGRESS,
Washington, D. C.

DEAR SIR:

Your letter of the 8th instant to Senator Harding, advising that the Rocky Mountain west has an intense interest in the work of the Interior Department, and suggesting an appointment as the head of this department one who understands the problems peculiar to the western mining and arid land states, has been before Senator Harding, by whom I am requested to say that he will consider all these matters in the choosing of a head for the Interior Department.

Yours very truly,

GEO. B. CHRISTIAN, JR.,
Secretary.

WAYS AND MEANS COMMITTEE HOLDS SPECIAL HEARING ON MCFADDEN BILL

THE HOUSE WAYS AND MEANS COMMITTEE held a special session on December 10 in order to obtain the latest information concerning the condition of the gold mining industry. Addresses were made by President W. J. Loring and Secretary J. F. Callbreath of the AMERICAN MINING CONGRESS, by the former on the threatened complete loss of the country's gold ore reserves and by the latter on the necessity for maintaining the gold standard. H. N. Lawrie, economist of the AMERICAN MINING CONGRESS, made an extemporaneous statement in support of the constitutionality of the McFadden bill, the enactment of which both President Loring and Secretary Callbreath had advocated. A report of the hearing follows:

Part I—Mr. Loring: Total Loss of Gold Ore Reserves Imminent

THE CHAIRMAN: All right, Mr. Loring, we will be glad to hear you, if you will tell us how much is being produced, how much was being produced before the war in the United States, and how much is being produced now; what percentage of the producers are out of commission because of the high cost of production, and so on.

MR. LORING: The production of gold in the United States prior to its entrance into war in 1915 was about \$100,000,000, and the production this year is estimated at less than \$50,000,000. And, that is due to the high cost of production, high cost of wages, and supplies and power. To work it out on a percentage of the mines that have closed down would be a very difficult task. The low grade mines have all closed down. There are only the higher grade mines and those low grade mines having a rich vein in them that are now producing.

MR. GARNER: May I get you clearly? First, there are three things. First, there is labor costs, and the cost of supplies, and the power costs. Now, I understand about the labor and the supplies, but what increases the cost of the power?

MR. LORING: The power companies claim that the cost of producing power is a great deal higher.

MR. GARNER: It all goes back, as I understand it, to wages. The power companies charge more for the reason that it costs more to produce the power. It all really goes back to the supply of labor.

MR. LORING: To the increased cost of supplies and labor.

MR. GARNER: And as my good friend, Uncle Joe Cannon, would say, in the last analysis, it is the labor and supplies.

MR. LORING: That is right. Now then, to continue on the percentage basis as I said before, the low grade gold mines have closed down, every one of them, and that has been caused by these three items that I just referred to.

And, the low grade mines of this country are the mines that are the backbone of the gold industry, because they contain millions of tons of ore. They are already developed, equipped and were in going condition when they were forced to close down. They closed down because they could not meet expenses in treating the ore. They had been able to do it with a profit before the war and before the expenses appreciated.

And, in some cases the mines have been abandoned. I know of several that have been abandoned and never will be reopened, but I know others that are operating their pumps at a very considerable cost in the hope that they will get relief.

And, without the relief that the McFadden bill will give a large number of these mines will go out of existence entirely, and when they do pass out of existence, there will be millions of tons of ore, containing millions of ounces of gold that will never be worked again.

Now then, so far as those mines are concerned, it would appear to me to be rather wasteful to have them pass out of existence and then search at a later date for new mines to replace those that we already know about and already have large ore reserves available. To keep alive these mines is our only motive, that they may produce the gold already in sight. They are already developed and equipped with large reserves of gold-bearing ore, and it is difficult these days to find new mines that will replace these old mines by searching for new ones to replace those that we already know about. The prospector has been driven from the field for the same reasons that have rendered gold mining unprofitable. The gold fields of the United States after the Civil War were largely unworked. Since then large volumes of rich placer gravel and quartz gold bearing ore have been removed, which seriously lessens the prospects now for the discovery of new gold ore reserves. If our present ore reserves are allowed to be wasted and become unreclaimable at a later date we cannot expect with success to replace them in the future. Relief must be provided now if the present developed gold tonnage is to be saved from total loss.

THE CHAIRMAN: If I am correct, I saw in August, I think it was, a statement—I was on the Pacific Coast at that time—that those mines in south Alaska—

MR. LORING: At Juneau and Douglas Island?

THE CHAIRMAN: Yes; that they had ceased producing gold altogether, discontinued, and have purchased from the government a large tract of timber land and have begun the production of pulp wood for paper. Those people have abandoned their mines altogether; that is, they have abandoned them for the present time as the cost of production is so high.

MR. GARNER: Mr. Loring, would you care if I asked you a question?

MR. LORING: I shall be glad to have you ask me any questions you may desire to.

MR. GARNER: I agree with you, as one member of the committee, that it is desirable not to close down these mines and that we ought to produce the gold in this country, just like we do any other commodity that is necessary for the transaction of the business of the country, but the reason that your gold production has been reduced is because it isn't worth as much as other articles that you can get for the same amount of money. Now, there has been a disposition among the American people, and it has been reflected through its legislatures, national and state, to reduce the cost of living. That tends to make gold worth more, does it not?

MR. LORING: Yes, sir.

MR. GARNER: So if they effect that, I say if they succeed, and if the American people get back to normal

as they were prior to the war, and the labor costs and the supplies and the power cost is reduced to the pre-war cost, then you will be able to continue as before the war?

MR. LORING: I would like to answer that—I am glad you asked the question. We never hope to get wages back to where they were before the war. Wages were very low before the war, but some other commodities, supplies and materials will come down, but I suppose it will be ten years before we can hope to get the cost of supplies and all other commodities and everything that goes to make up the working costs back to where they were before the war.

MR. GARNER: You think it will be ten years before the gold dollar will purchase as much as it did before the war?

MR. LORING: Yes; I should say, emphatically, yes. Not only that, but such large sums of money have already been expended in the development of these mines that we are discussing now and that money is lost, because if a mine is once abandoned, there is a great deal of depreciation, which is very rapid. Water will rise in them and the timbers will rot—not under water, but the timbers will rot before the water comes up to the timbers—and the surface plant deteriorates very fast. The surface plant on a mine after it has closed down for two or three years would not be worth twenty-five per cent of the value when it was closed, due to the evaporation of moisture from the timbers and woodwork, and rust attacking the machinery. Further than that, these large gold mines in this country are not only very finely equipped with machinery and plants, but they have a large staff of very valuable officers who understand the mines and their peculiarities, and they are all different, every one having its own peculiarities. Those men get scattered all over the country and the first thing you know you haven't any men to start the mine up with.

THE CHAIRMAN: What you are suggesting, Mr. Loring, before the committee that should be done, is—

MR. GARNER: What is your remedy?

MR. LORING: The only remedy I can see is the McFadden bill. It will save a part of this industry, some of it. This will be some relief; of course, it will not cover the increased costs, but we think it will save a large number of mines from destruction and total abandonment.

MR. GARNER: This places a tax of ten dollars per ounce to be placed in the Treasury Department to be distributed among the gold producers of the country?

MR. LORING: Yes, sir; the producers of new gold.

MR. GARNER: The producers of new gold?

MR. LORING: Yes, sir; the producers of new gold.

MR. GARNER: The parties who pay for that are the parties who use the gold in the arts and sciences, or would that apply to all gold?

MR. LORING: No; just to the arts and sciences.

MR. OLDFIELD: Jewelry and things of that kind?

MR. LORING: Yes, sir.

THE CHAIRMAN: If I am correct in my recollection, it was stated here last spring when we had these hearings that in the United States at the present time \$75,000,000 to \$80,000,000 per year were used in the manufacture, in arts and industry, is that correct?

MR. LORING: Yes, sir; about \$81,000,000 for 1919.

THE CHAIRMAN: About \$81,000,000 per year?

MR. LORING: Yes, sir. The consumption of gold during 1919 was some \$21,000,000 more than the production for the same period, more than the production out of the gold mines of the United States.

THE CHAIRMAN: And that year we produced about \$58,500,000 worth of gold?

MR. LORING: Yes, sir.

MR. GARNER: I did not quite get that.

THE CHAIRMAN: They used about \$21,000,000 more of gold in the manufacture, in arts and sciences in 1919 than was produced in the United States.

MR. LORING: Yes, sir.

THE CHAIRMAN: And we produced about \$58,500,000 for that year.

MR. GARNER: About \$81,000,000 worth used in the arts and sciences during the year 1919?

MR. OLDFIELD: That all came out of the treasury, out of the bullion? That was probably old stuff that was probably reworked; you do not mean that that came out of the treasury?

MR. LORING: I do not think that it was all new gold, but there was not a great deal of old gold. I think about three and one-half million dollars of it was gold coin that was used.

THE CHAIRMAN: Here is a statement by some gentleman at that time. Well, without looking up who it was, the gold is not consumed or destroyed in its use in the arts, which

is clearly substantiated from the fact that the gold held by the Federal Reserve Board at present amounts to \$1,953,103,000, approximately equaling the total production of gold in the United States during the last twenty-four years, or from 1895 to date. Well, but he does not include the importation of gold. He is speaking of the production. He states furthermore, that the proponents of this measure point with alarm to the amount of gold that is going into the arts. Well, he does not include everything there and by years.

The actual figures in that connection follow: 1914, \$45,520,000; 1915, \$37,820,000; 1916, \$54,061,000; 1917, \$52,915,000; 1918, \$52,409,000. Then he goes on, but he does not cover all of the points that are covered by the men that are in favor of this bill.

MR. LORING: I would like to give you a few little details in closing, about some particular cases that I am connected with that might be of interest to you.

One mine was reopened in 1914 at a cost of nearly \$1,000,000. We began our milling operations in 1914. At the first the working cost was \$2.89 per ton. Its cost has risen until it is \$5.99 at the present time. Now, that is an extreme case.

I have another one that we expended a little over \$1,000,000 upon and developed 800,000 tons of ore. That

At the conclusion of the hearing on the gold situation, at which President W. J. Loring, Secretary J. F. Callbreath and H. N. Lawrie, economist, of the American Mining Congress, presented their views, the House Ways and Means Committee sent the McFadden Bill to the Attorney General for an opinion as to its constitutionality. The taking of this almost unprecedented step is an indication of the seriousness with which the members of the committee are considering the measure.

President Loring is recognized as one of the foremost authorities on the gold situation. He is president and general manager of the Carson Hill Gold Mines Company, president and general manager of the Pacific Coast Gold Mines Corporation, managing director of the Plymouth Lode Gold Mines, Ltd., and president and general manager of the Pacific Tungsten Company, as well as a director and managing director of several other companies.

The Manufacturing Jewelers' Association of New York, which opposes the McFadden Bill and charges it is class legislation, has asked for a further hearing before the Ways and Means Committee.

was ore before the war, and the cost for carrying on that operation has increased until it exceeded the value of the ore by \$1.58. So, we have had to close that property down, but we still keep the water out of the mine, hoping to get some relief.

THE CHAIRMAN: Where is that mine situated? Where is it located?

MR. LORING: That mine is located in California; both of these mines are in California.

THE CHAIRMAN: Well, the appeal that you are making to the committee or the request is that Congress place a tax upon the gold bullion used in manufacturing for the benefit of the producer on the gold to be distributed in the amount of gold each operator produces?

MR. LORING: That is right.

THE CHAIRMAN: In order to bring back normal production of gold?

MR. LORING: Yes, sir.

THE CHAIRMAN: The price of gold did not decrease in value, but the cost of production has more than doubled up during the war?

MR. LORING: That is so.

THE CHAIRMAN: As a result of that, all these mines are running on a smaller margin of profit?

MR. LORING: Yes, sir.

MR. GARNER: Mr. Loring, have you ever had an attorney look into the constitutionality of the proposition of the power of Congress to levy this kind of a tax for the purpose for which it is proposed to levy it?

MR. LORING: I have not. Perhaps Mr. Lawrie could answer that question.

MR. GARNER: That was just a thought which occurs to me that the constitution says something about the power of Congress to levy taxes and the purposes for which levied. You know some of our friends sometimes levy taxes for protection, but they always put in "for revenue" so as to get by the Supreme Court, and I was just wondering whether any question of constitutionality with regard to levying taxes, Congress levying taxes on certain people for the purpose of transferring that money to some other people in the United States, had ever been raised. I do not think that I have ever heard of that kind of a proposition before. It has never come under my observation. I was just wondering whether that question had ever been raised.

MR. LORING: I think probably Mr. Lawrie can answer that question.

Part II—Mr. Lawrie: McFadden Bill Constitutional

MR. LAWRIE: The subject of the constitutionality of this bill was discussed briefly before the last hearing upon the adjournment of Congress and at that time Mr. McFadden made the suggestion of an amendment for the heading of this bill which would show that it was for the purpose of levying taxes for revenue, as well as for the other purposes contained in the act. That upon the point of the constitutionality, there could be very little question. Inasmuch as the government had already fixed the price of gold, it should also have power to administer and to so change it as to insure the production of new gold in the country. If the government has the constitutional power to fix the price, I believe that the provisions of this bill as above amended would be constitutional.

THE CHAIRMAN: Thank you.

MR. LORING: I desire to thank you for the opportunity of appearing before the committee.

THE CHAIRMAN: We want to thank you, Mr. Loring.

MR. GARNER: I want to suggest, Mr. Chairman, that if this bill is going to be taken up in executive session and gone over it might be wise for the clerk to refer the bill to the Attorney General. It does seem to me that there is some question as to the constitutionality of it, and the very fact that the proponents of the bill suggest to add "for revenue" shows that there is some thought among themselves that it might be wise to get under protection.

THE CHAIRMAN: I think that would be a wise thing to do before we take it up for final consideration, to get the opinion of the Attorney General in the matter.

Thank you, sir.

MR. TIMBERLAKE: Mr. Chairman, Mr. Callbreath, Secretary of the American Mining Congress, is here and Mr. Garner asked a question of Mr. Loring as to when, in his opinion, normal times would come in this country with regard to the reduction of the cost of labor, and so forth, and Mr. Callbreath would like to reply to that question.

THE CHAIRMAN: We would be glad to have him do that.

Part III—Mr. Callbreath: New Gold Needed To Sustain Gold Standard

MR. CALLBREATH: Mr. Chairman, the question of when prices will assume their old-time levels is one which compasses the economics of the world.

Our prices are fixed in gold standard countries upon the level of the gold which maintains those prices. We had in the whole world prior to the war about ten billion dollars worth of gold. That amount remains practically stationary now. We had in this country one and three-quarter billions of gold at the outbreak of the war. During the first two years of the war we took from Europe about one and one-quarter billions of gold so that our gold stock in 1917 amounted to about three billions of dollars, or practically one-third of the gold supply of the world. Since then we have lost by exportation about a half billion dollars of gold.

Prior to the war, with our one and three-quarter billion dollars worth of gold and our credit money about one-sixth of what it is now, we had difficulty at times in maintaining our credit. That was illustrated very vividly by the panic of 1907. During a time when every wheel of industry was in operation and every man who would work was employed at the highest wages then known in the history of the country, out of a clear sky came a panic which wrecked business and destroyed our credit at home, and had it not been for the fact that our banks closed down their paying tellers' windows and practically repudiated their obligations, we would have been wrecked with a panic from which it would have been extremely difficult for the country to recover.

That panic proved that the then structure of credit was fully as large, if not larger than the then foundation of gold was able to support. Since that time we have increased the structure of credit manyfold, and the present structure now sustained by our two and seven-tenths billion dollars of gold is many times greater in proportion than the credit structure based on the one and seven-tenths billions of dollars of gold before the war.

We have taken one and one-fourth billion dollars' worth of gold out of European countries which we now have in this country. We find our business industries stagnant largely because of the fact that European nations lacking this gold have neither money nor credit with which to buy our materials. Europe is today hun-

gry for our copper to rebuild their industries, and in this country we have large surplus stocks of copper and our production is being cut to nothing practically because of the fact that Europe is not able to take the copper, which they need, but lack the money with which to buy.

MR. GARNER: They have not?

MR. CALLBREATH: They have not the money nor the credit with which they can buy. Under those conditions our industries are stagnant because European finances are not where they ought to be.

Today in London British exchange is very much below par value of her gold. In other words, her money is at a discount. We have in this country been able to maintain our money at par, because we have more than our share of the world's gold supply.

THE CHAIRMAN: Isn't it true that the war has destroyed a great deal of property and that—

MR. CALLBREATH (interposing): That is true.

THE CHAIRMAN: The world war has destroyed a couple of billion dollars' worth of property, and because of that we have the situation which is existing today.

MR. CALLBREATH: When are we going to get back to normal conditions? It is going to take years to get back to normal. European nations will have to rebuild their credit and will undoubtedly draw on our gold reserves for that purpose. When that time comes we are going to have even a greater problem than we have now, to maintain a free gold market and keep our currency at par. So, it seems to me that it is very important that we shall maintain our gold reserves at the highest point possible to do by any reasonable means.

I do not believe that any of you gentlemen believe that wages will ever again get back to pre-war levels. It certainly would mean a trail of disaster to the country if such a condition should come in a brief period of time.

THE CHAIRMAN: Then, the cost of living can never get back.

MR. CALLBREATH: No, we never will get back to the pre-war prices. I have studied the matter rather carefully, and it seems to me that the most that we can hope for is to get back to about one-third above that level.

THE CHAIRMAN: Cotton has gotten back to the pre-war level.

MR. CALLBREATH: True, but it is not being sold and the production of cotton is being curtailed.

MR. COPLEY: What about wages, at the same time that we reach the level of one and one-third of the pre-war rate of wages as compared with that period of the pre-war?

MR. CALLBREATH: The rate of wages will be very much above that level.

MR. COPLEY: Very much above the one and one-third, but living expenses will be reduced to that?

MR. CALLBREATH: They will be reduced to that point, but that will mean that profits will be proportionately less than they are now.

THE CHAIRMAN: In Germany today the wages are lower than they were before the war.

MR. CALLBREATH: Well, I do not think that we can learn very much of a lesson from the situation in Germany, nor in any other country in which they are so impoverished that industry is practically paralyzed. The point I want to impress upon you gentlemen is this, that if we are to protect our credit we must have gold with which to do it. We can not get more gold from foreign countries without further decreasing their purchase power in our market. We have got more than our share now and we must anticipate the probable loss of some to those countries in greater need.

THE CHAIRMAN: You advocate the passage of the McFadden bill?

MR. CALLBREATH: Yes, sir; because it seems to me to be the best remedy now available. I do not say that I believe that it is a complete remedy, but that it is a remedy which will enable us to keep up the production of gold, thereby conserving our present supply of gold.

Our gold reserve seems to me very much like a tank from which we draw our supply of water with a stream flowing in at the top while we are drawing water out at the faucet. We may draw off a few barrels more than the intake supplies today, because we may need it, and we may not need so much tomorrow, but the continuous inflow of newly produced gold will sustain our confidence that the supply will always be sufficient?

Last year \$21,000,000 more gold for industrial purposes was consumed than the mines of our country produced. I do not think we should continue to depreciate that reserve to which we look to support our credit, and if we do sooner or later we will get to a point where we will feel doubtful as to the sufficiency of that reserve.

Director of Mint Reports Busy Twelve Months

A GREATER NUMBER of coins has been turned out than during any preceding year, and the mints are still working twenty-four hours daily, according to the annual report of Raymond T. Baker, director of the Mint. During the year 809,500,000 pieces of money were coined, 76,000,000 of which were for foreign governments.

New methods have been adopted and improved appliances installed, with the result that estimates for the mint service for next year have been reduced nine per cent. Chief among the mechanical changes has been the installation of large electric furnaces in place of small gas and oil-burning equipment. At Philadelphia an electric furnace of 1,000 pounds capacity displaced four gas furnaces, effecting a fuel saving of fifty per cent. Installation of mechanical conveyors for ingots, strips, discs and coins, which formerly were handled by hand, resulted in a saving estimated at between forty and fifty per cent. A tandem arrangement of six rolling machines worked a reduction of 75 per cent in operating expense and an automatic attachment for disc cutting machines resulted in an 80 per cent saving. Additional electric furnaces of half a ton capacity each were installed at Philadelphia and San Francisco. Further changes are being made at San Francisco, and the Denver mint will next receive similar attention.

The Secretary of the Treasury estimates the cost of repairing the New York assay office, damaged by the Wall Street explosion in September, will be \$75,000.

States Regulate Mines

THIRTY STATES have coal mines, and twenty-eight of them either by general law or through commissions regulate the operation of coal mines, according to the U. S. Bureau of Mines. The Bureau groups these codes as follows: Distinctly coal mining, twelve; essentially coal mining, eight; partly coal mining, five; essentially metal mining, but applying wholly or partly to coal mining also, four. Pennsylvania, which in 1869 became the first state to enact a coal mining law of any kind, has separate codes for anthracite and bituminous fields.

METHODS AND PROBLEMS OF FEDERAL TAXATION OF THE MINING INDUSTRY

By J. C. DICK.

THE SUBJECT OF TAXATION is a very vexatious and troublesome problem, yet from personal necessity on the one hand, and patriotic duty on the other, it commands our attention and best efforts for proper solution so that industry will not be throttled, but will move with accelerated speed in order to carry the great burden that the recent war placed upon the nation.

If the public utterances of some of our greatest statesmen and politicians of either party during the recent campaign are in harmony with the thought of Congress, we can look for radical changes in the present tax law. It may be difficult for some to conceive of a just tax on corporations that does not give due consideration to the capital invested as well as the income derived from the investment. However, regardless of repeals or modifications or substitutions these changes can not materially lessen the tax burden; making laws will not decrease the public debt—that will be dissipated in the direct ratio of increased efficiency throughout the entire industrial United States. Our aim should be one hundred per cent efficiency, and that can be realized only when all economize to the limit as well as spending every effort to increase production.

The word "slacker" coined during the war is quite applicable to any individual in this country who, during this reconstruction period, will not take hold of the wheel of progress and assist in forcing it to revolve in its normal manner. To my mind, a campaign of publicity along these lines would do more to lessen the tax burden than the making of untried laws. No tax law can be enacted that will function with equal justice toward all the diversified interests of our vast republic, but we might correct the imperfections in the present law as time and experience dictate rather than go into unknown and speculative fields for a new system that means but little other than changing the form as to how this government shall assess the four billions of money that are needed annually. It is not my province to extol the virtues of the present tax law, but whether it is good or bad it is on the statutes and as a government employee in my present capacity my work is to assist in the administration of the act as it stands, and Regulations 45, which has been cussed and dis-

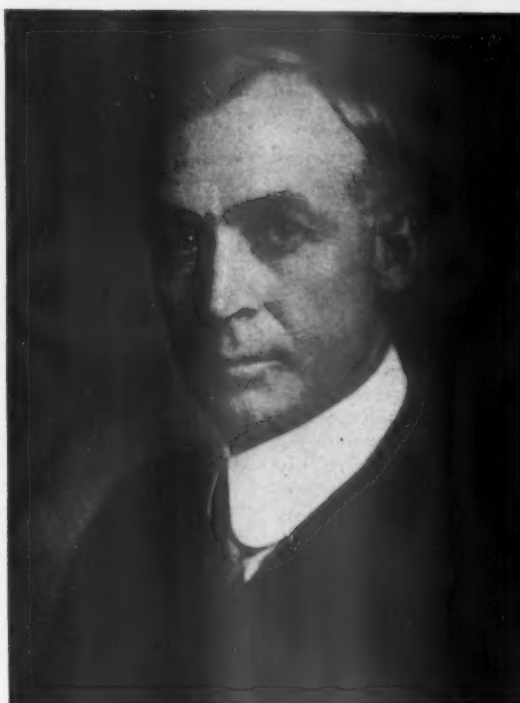
cussed, is still the primary, as it is also the post-graduate textbook, in the internal revenue school of taxation.

One feature of government work, I have noticed, is that the individual believes that the particular section in which he toils is the most important one in the Bureau. I shall refer to the Natural Resources Subdivision of the Income Tax Unit, because it is the most important to members of the AMERICAN MINING CONGRESS.

This subdivision was created to handle all cases requiring valuation for depletion purposes, and the function of the valuation sections is to examine the tax returns and the data that the taxpayer submits as to his valuation and determine whether or not the depletion deduction made in the return is a reasonable one. When the valuation sections were first organized the manner in which valuation should be made, or rather the yard stick that the bureau should use to test the valuations made by the taxpayer, was discussed at great length for some months prior to beginning work. Engineers from the oil industry were brought into the bureau to handle valuation problems of oil and gas properties; engineers from the metal mines were secured to handle problems relating to metal mines valuation, and likewise engineers from the coal and timber industries to handle their particular problems. There are still a number of cases in the valuation sections of the Natural Resources Subdivision awaiting information from the taxpayer relative to the determination

of his depletion deduction. A brief outline of the work being done may answer the inquiry, "Why still worry the taxpayer?"

To get at the fair market value of the property as of any particular date requires the most intimate knowledge of its condition at the specified time. In order to learn of this condition, questionnaires were compiled for the different industries and sent to the taxpayer to assist him in furnishing necessary information required to get at a fair value. There have been a great many criticisms as to the form of this questionnaire and the form can probably be improved, and yet as the questionnaire must fit all cases it includes not only the questions pertinent to an individual case, but is sufficiently broad in scope to comprehend any and all cases that might arise in the given industry. The results the de-



J. C. DICK

Chief of the Subdivision of Natural Resources
Bureau of Internal Revenue

partment gets are quite varied. In some instances all the questions are answered and the questionnaire of the taxpayer is completely filled out. In other cases the information contained is meagre and necessitates correspondence before the value can be fairly determined. The valuation engineer must see that the valuation submitted by the taxpayer has been substantiated in order to arrive at a reasonable depletion based thereon, as no depletion deductions are allowed until the fair value is determined. It is therefore absolutely necessary that this valuation data be submitted, or an unavoidable injustice might be done the taxpayer in determining his tax.

To substantiate this value as of March 1, 1913, the engineer examines the questionnaire to see whether or not there are sales on or about the specified date that would determine the market value, or if there had been leases given about that time on this or similar properties, where the royalty rates in the agreement would reflect the value of the mineral in the ground, or whether or not there have been sales of similar property in the neighborhood that would reflect the value of the taxpayer's property. By investigating the profits made in 1913, the taxpayer's valuation may be checked by estimating the probable profits over a term of years and these profits reduced to the present value.

In a valuation of this kind there are several factors of a debatable character that enter into the computation, namely, the mineral reserves, the price at which the product will probably sell during the life of the property, the operating cost of production, the discount rate that should be used in reducing the estimated profits to a present value, and the necessary plant and physical equipment that will be necessary to derive these profits. In applying this method for a metals valuation, the engineer would use the tonnage grade of ore and production cost set forth in the questionnaire and substantiated by the records. The rate of production is determined by investigation of the operations of the taxpayer at the date of valuation, and also taking into consideration the economic conditions, which factors determine the probable life of the property.

The price for which the product will sell during future years and the rate of interest that should be applied to reduce the operating profits to present worth have been much debated and are questions upon which there was a great deal of technical discussion a year ago. In the case of metal mines, viewing the conditions as of March 1, 1913, it was determined that 65 cents an ounce would have been a fair price for silver, that 4½ cents a pound would have been a fair price for lead, that 16¼ cents would be a fair price for copper, that \$5.70 would be a fair price for zinc, etc. In the matter of discount rates it was thought advisable to use a rate of interest commensurate with the risk involved in the enterprise and a safe rate to apply for return of capital. Where the ore is practically assured an interest rate of seven per cent on investment and four per cent for return of capital is used; where the ore is but partially developed, the interest rates increase to as high as 20 per cent when the risks in the enterprise seemed to warrant such high expectancy of profit. There has been a great deal of debate as to why the Government uses these two rates rather than a straight discount rate. There is no necessity of entering into a technical discussion of the merits or demerits of this plan that assumes the total operating profits are returned in equal annual installments and consist of two parts, first a fair rate of interest on the investment, and second, a definite annual sum which, at a safe rate of interest compounded annually, will redeem the investment.

Whatever method has been used by the taxpayer to

determine the value of his property, the questionnaire requires that answers be made to all questions and thus supply the means of checking up the result. The regulations prescribe no method but state that due consideration will be given all factors, such as cost, actual transfers of similar property, royalties and rentals, appraisals by approved methods, market value of stock, and others. All these factors are given consideration in the valuation section. After the depletion has been determined the case goes to the audit section where in connection with the field agent report, all other questions in the returns of the taxpayers are examined. This subject has been rehearsed and is old, but has been reviewed briefly in the hope that it might show the taxpayer whose property is not yet valued the necessity of promptly supplying the data requested by the bureau.

Referring briefly to changes in the law, among those suggested might be listed depletion as a percentage of income rather than depletion on unit cost.

The regulations prescribe how the taxpayer shall derive the unit of depletion in order to determine the deductions from income. It does not suggest a percentage of income as a depletion deduction, and I understand there is doubt as to the present law permitting a regulation prescribing such a method. Though it may have no foundation in law, and to a great many not sound in principle, it nevertheless appeals strongly to me, and believe it has considerable merit.

Where a property has been purchased for cash, or where this value may be ascertained by the sales of similar property on a normal market, or can be fairly determined by the prevailing royalties or rentals of similar property during a normal period, these transactions probably establish the fair market value. Sales of similar property during periods of depression or boom periods do not fairly nor equitably determine a basis of valuation that results in a reasonable depletion when you apply the unit method, yet said sales value may reflect the fair market value of the taxpayer's property at the specified rate.

Properties that have a history, with assured ore bodies so that the future spread of profits can be determined with sufficient accuracy, may permit a willing buyer and a willing seller to agree upon the purchase price, and yet the unit method of depletion might not accurately measure the actual depletion of capital value sustained during the future operation of the mine.

To illustrate: Suppose we have a mine of 1,000,000 tons of ore in 1920; that we can foresee the economic conditions that will prevail during the next ten years and can ascertain definitely that in 1921 to 1923 the operating profits will be \$1 a ton, from 1923 to 1926 we can make \$4 a ton profit, from 1926 to 1927 \$2 a ton profit, and from 1927 to 1930 \$1 a ton profit, or a total of \$2,000,000 operating earnings. Let us further assume that conditions are such that we must mine at the rate of 100,000 tons annually and that we had paid for the mine \$1,000,000. Would we deplete the mine at \$1 a ton annually, or on the basis of 50 per cent of the profits? I think the depletion account kept on a basis that would represent the ratio of cost to known value of ore reserves; namely, on a percentage of profits basis, would more accurately measure the true depletion.

The fair market value, as determined by the present value method, may be a close approximation of the truth, but a depletion deduction from income, based upon a percentage that comprehends the relationship of cost and earnings, or the anticipated spread of profits that was used in the calculation for valuation, more accurately expresses the true depletion that the ore reserves suffer annually. In the illustration used above, whether you take 50 per cent of your income as an

annual deduction for depletion, or deplete on a unit method basis of \$1 per ton, you obtain a million dollars of capital value through depletion deductions during the ten years. But as you did not sustain like depletion annually, would it not have been more logical to have taken depletion on actual amounts sustained, or 50 per cent of the profits? If it were logical in this case, it seems to me it would still be more so where the ore reserves, cost of production and sales price of metals are but an approximation.

The percentage of income as depletion deduction will return to the taxpayer as a much closer approximation to the intrinsic value of the property than a unit method of depletion would, and in any appraisal method the closer the fair market value approaches the intrinsic value, the more accurate was the appraisal. Likewise, as the percentage method of depletion more closely approaches the true depletion, to that extent does the true depletion approach the reasonable depletion mentioned in the law.

TWO LABORATORY CARS TRANSFERRED TO BUREAU OF MINES

TWO TRAVELING LABORATORY cars, the Hamilton and Wyman, belonging to the Public Health Service and used in epidemic work, have been transferred to the Bureau of Mines, having completed their work for the Public Health Service.

One of these cars, the Hamilton, has been sent to Terre Haute, Ind., to take the place of the mine rescue car formerly stationed there which was destroyed by fire. The other car, the Wyman, will be used as a laboratory car in the field work of the bureau in the sampling and the classification of coals. The coal sampling crew will live on the car, which will also contain the machinery and laboratory equipment for the crushing and preparation of the coal samples.

MINERAL LANDS CLASSIFIED

THE SECRETARY OF THE INTERIOR in his annual report states that on July 1 coal lands had been classified and appraised as follows:

	Acres.	Valuation.
Arkansas	60,715	\$1,473,762
California	7,720	585,086
Colorado	2,885,137	196,199,767
Idaho	4,603	89,624
Montana	5,781,986	137,560,696
Nevada	6,803	126,830
New Mexico	657,428	16,198,951
North Dakota	11,409,849	199,383,866
Oregon	7,195	174,843
South Dakota	244,874	2,711,462
Utah	1,069,871	45,101,333
Washington	2,706	88,360
Wyoming	7,239,055	387,794,213
	29,377,942	\$987,488,793

During the year only 954 acres of oil lands were restored to entry. All of this acreage was located in Montana. Outstanding withdrawals of oil lands on July 1 were as follows:

	Acres.
Arizona	230,400
California	1,257,229
Colorado	222,977
Louisiana	467,030
Montana	1,350,937
North Dakota	84,894
Utah	1,962,787
Wyoming	1,181,626
	6,757,880

Gold and Silver Movements

THE FEDERAL RESERVE Bulletin gives the following official report of gold and silver movements:

During the month ended November 10 the net inward movement of gold was \$62,519,000, as compared with a net inward movement of \$56,503,000 for the month ending October 10. Net imports of gold since August 1, 1914, were \$816,229,000, as may be seen from the following exhibit:

[In thousands of dollars.]			
	Imports.	Exports.	Excess of Imports Over Exports.
Aug. 1 to Dec. 31, 1914.....	23,253	104,972	*81,719
Jan. 1 to Dec. 31, 1915.....	451,955	31,426	420,529
Jan. 1 to Dec. 31, 1916.....	685,745	155,793	529,952
Jan. 1 to Dec. 31, 1917.....	553,713	372,171	181,542
Jan. 1 to Dec. 31, 1918.....	61,950	40,848	21,102
Jan. 1 to Dec. 31, 1919.....	76,534	368,185	*291,651
Jan. 1 to Nov. 10, 1920.....	333,775	297,301	36,474
Total	2,186,925	1,370,696	816,229

*Excess of exports over imports.

England furnished \$82,053,000, or over 86 per cent, and France \$5,571,000 of the \$95,060,000 of gold imported during the monthly period ending November 10, Columbia, Canada, Sweden, Australia, and Mexico furnishing most of the remainder. Of the gold exports, amounting to \$32,541,000, over 85 per cent, or \$27,942,000, was consigned to Japan, \$3,000,000 to China, and the remainder principally to Hongkong, Mexico, and Canada. Since the removal of the gold embargo on June 9, 1919, total gold exports have amounted to approximately \$651,097,000. Of this total, \$174,407,000 was consigned to Japan, \$146,555,000 to Argentina, \$69,330,000 to Hongkong, \$67,396,000 to China, \$40,812,000 to British India, \$29,778,000 to Spain, and the remainder principally to Mexico, Uruguay, the Dutch East Indies, the Straits Settlements, Canada, and Venezuela.

During the same monthly period the net outward movement of silver was \$282,000, as compared with a net inward movement of \$1,308,000 for the month ending September 10. Net exports of silver since August 1, 1914, were \$454,571,000, as may be seen from the following exhibit:

[In thousands of dollars.]			
	Imports.	Exports.	Excess of Exports Over Imports.
Aug. 1 to Dec. 31, 1914.....	12,129	22,182	10,053
Jan. 1 to Dec. 31, 1915.....	34,484	53,599	19,115
Jan. 1 to Dec. 31, 1916.....	32,263	70,595	38,332
Jan. 1 to Dec. 31, 1917.....	53,340	84,131	30,791
Jan. 1 to Dec. 31, 1918.....	71,376	252,846	181,470
Jan. 1 to Dec. 31, 1919.....	89,410	239,021	149,611
Jan. 1 to Nov. 10, 1920.....	79,856	105,055	25,199
Total	372,858	827,429	454,571

Mexico furnished \$2,288,000, or almost one-half, and Peru \$1,038,000 of the \$4,645,000 of silver imported during the monthly period ending November 10, most of the remainder coming from Chile, Bolivia, Honduras, and Canada. Of the silver exports, amounting to \$4,927,000, about 45 per cent, or \$2,246,000, was consigned to Japan, \$1,555,000 to China, and the remainder principally to Hongkong, Mexico, and Canada.

THE NEW CHAIRMAN OF THE HOUSE COMMITTEE ON MINES AND MINING

IN 1811 Henry R. Schoolcraft was sent out by the federal government and the governor of New York to do scientific and research work in the Ozark region of the Louisiana Territory. In those early days mining in what is now the southeastern part of Missouri was a developed industry. At Herculeaneum, Moses Austin, who owned three shot-towers and most of the acreage surrounding their base for many rods in every direction, made bullets which General Andrew Jackson used at the battle of New Orleans. When Schoolcraft visited the lead works at Mine La Motte he—as he himself wrote later on—“observed a peculiar blue flame given off in the process of smelting, indicating the presence of cobalt.”

Exactly one hundred years later cobalt was first mined in Missouri, and when the year 1920 passed into history, Missouri was the only state in the Union producing cobalt, with the possible exception of Idaho. Mine La Motte was still a paying proposition, Missouri was foremost in the production of lead, second only to Georgia in its output of barytes and maintained a respectable position in its output of zinc. And much of the state's pre-eminence in respect to these minerals was due to the production of the mines of southeastern Missouri, in the Thirteenth Congressional District.

Hence it was not at all surprising that upon the death of Representative Mahlon M. Garland, of Pennsylvania, the House Committee on Mines and Mining should look to the Thirteenth Congressional District of Missouri for a new chairman. Representative Marion E. Rhodes comes from Potosi, which was very much in existence when bullets for General Jackson were being made at Herculeaneum and when Schoolcraft observed the peculiar blue flame at Mine La Motte, and is not a very great distance from either place. Mr. Rhodes, who is a lawyer, has been associated with mine operators and mine employees and interested in them and the welfare of the mining industry all his life, and whatever influence he as chairman of the Committee on Mines and Mining can exert in their behalf will be but a continuation of efforts which, upon a somewhat less extensive scale, he has long been accustomed to make.

Mr. Rhodes was in Congress once before, having been elected in 1904. He at once attempted to protect American barytes producers against German importations by having enacted a proper tariff measure, introducing the first bill for this purpose ever prepared. His measure was not enacted into law during his term as Congressman, but its provisions were incorporated in a tariff law which subsequently was put into effect, with the result that the barytes production of Missouri and the United States prospered. The Underwood Tariff Act of 1913 put both crude and manufactured ore on the free list, allowing only a small duty to remain on the chemically refined products, including chloride, dioxide and carbonate. While importations began to increase at once, the war, which by 1918 had completely shut off German dumping, served all the purposes of a protective tariff, but the return of peace has brought about a competition which now threatens the American industry with complete extinction. And, as might have been expected, Representative Rhodes has assumed the task of giving the industry the needed tariff protection.

Missouri ore sells for \$10 per ton, f.o.b. shipping

point. Freight to New York, Boston or Philadelphia is \$9.50 per ton, making the f.o.b. seaboard price on the American commodity \$19.50. But German producers are laying the crude down in New York for \$12 and less per ton. For the manufactured article the figures are: St. Louis market, \$24.50; package, \$3; freight, \$9.50; total, \$37. But the German manufacturers quote a price of \$23.60 for delivery at either New York or Philadelphia. The American product cannot even attract attention in such a market as this; hence it is no wonder that Representative Rhodes has been receiving calls for help since September, or that he is receiving every day letters from American manufacturers and producers giving reports of the arrival of huge German shipments and stating that the writers will soon have to go out of business, if they have not already done so. Representative Rhodes now has a bill before the Ways and Means Committee and the Tariff Commission which, if enacted, will place a duty of \$10 per ton on the crude and a graduated tariff on chemicals running as high as \$25 per ton. It is designed to give the necessary relief and Mr. Rhodes intends to keep behind it until it is enacted into law.

All the lead companies, Representative Rhodes says, are either closing down or posting notices reducing wages from twenty to thirty per cent on January 1. Mr. Rhodes will ask the Ways and Means Committee during the forthcoming tariff hearings to impose a duty of 1½ cents per pound on the metallic content; or, in other words, to return to the schedules of the Payne-Aldrich Law.

“On account of the general depression which is affecting all interests, the mining industry of the country is suffering,” Mr. Rhodes said. “Upon the reorganization of the House Committee on Mines and Mining, and my assumption of the chairmanship, after reviewing mining conditions generally, I stated to the committee members that it was my hope that our committee could do something to relieve conditions. While the committee has not gone so far as to agree upon any definite line of action, its members are in sympathy with the suggestion that something should be done to relieve conditions as far as possible. The committee has recommended the passage of legislation to suspend assessment work for 1920 on mining claims in the hope that claimants may not lose their claims on account of not having been able to do work necessary under the mining laws. There are other bills before the committee relating to mining matters which will be taken up the first of the year.”

In other words, neither the cobalt mines of Missouri, nor any other kind of mine of Missouri or any other state, shall be permitted to lie dormant for another hundred years, or any part of one hundred years, on account of the importation of foreign ores produced by laborers paid in money worth a nickel a wagonload, if the new chairman of the House Ways and Means Committee can prevent it.

FEDERAL WAR TAX SETTLEMENT BOARD AN URGENT NECESSITY

BY ROBT. G. WILSON,

Chief of the Tax Division of the American Mining Congress.

THAT THE CREATION of a Federal War Tax Settlement Board, as recommended to Congress by the AMERICAN MINING CONGRESS, is not only advisable, but a most urgent necessity, is the opinion of business men and taxation authorities in widespread comment upon the proposal.

"The government is using pick and shovel methods to work a mine where blasting and steam shovels are needed," is the appropriately expressed view of the present situation by Prof. Carl C. Plehn, economist of the University of California and prominent writer on taxation. "I wish to say, as emphatically as possible, that a federal board of adjustment to deal with the accumulated returns of income and excess profits taxes is absolutely necessary."

Prof. Robert M. Haig, of Columbia University, expressed himself similarly. "I thoroughly approve of what the report of the Committee on Taxation of the AMERICAN MINING CONGRESS says of the urgency of the situation and of the necessity for such action as will result in speedily fixing the precise liability of taxpayers," said Professor Haig, who is well known as an authority. "We must at once radically improve our income and profits tax administration if we are to escape very serious fiscal and economic consequences."

C. B. Hurrey, until recently Deputy Commissioner of Internal Revenue; Robert N. Miller, ex-Solicitor of Internal Revenue; C. M. Zander, chairman of the Arizona Tax Commission, and many others experienced in tax administration, have also joined with taxpayers in the appeal for a definite and authoritative settlement of cases consequent upon the war-time period. The reasons are many and varied, but largely relate to justice to the taxpayer, much-needed income to the government and relief to the Revenue Bureau. There are those who feel that the settlement board might be attached to the bureau, but the majority opinion inclines to the belief that it would function more effec-

tively if independent of all existing departments.

Professor Plehn holds that "with billions of dollars at stake it is worse than penny-wise and pound-foolish to delay. It is fundamentally wicked to hold up tax settlements for five years. They hang like a great rock suspended by a thread over the head of industry, and threaten to fall when industry is at its weakest. If

you will look at page 3 of the Digest of Income Tax Rulings you will see that there are ten different official sources of rulings on income tax decisions. If you will read any hundred such decisions, selecting ten from each source, you will find numerous inconsistencies, often flat contradictions. Added to this confusion are the unrecorded and arbitrary decisions of 'auditors' and 'inspectors' who often deal with industries and accounts of which they have less than an elementary understanding. How far would you get in operating a big mine if you had ten independent sets of orders going out to gang bosses who had never been in a mine before?

"There are many radical reforms of administration necessary before we can have a workable income tax. But the first thing, the most pressing thing, is to clean up the past output, to get the ore that is above ground into the smelter and the metal out."

Professor Haig, with the assistance of George E. Holmes, of the AMERICAN MINING CONGRESS Tax Committee, recently completed a volume on "The Taxation of Excess Profits in Great Britain," a study of the British systems in relation to the problems of taxation in the United

States. In it he points to the highly successful boards of referees, which have long been a part of the British income tax procedure.

In view of Prof. Haig's intensive study in England of the administration of heavy taxation, his opinion on the urgency of creating a settlement board in this country was particularly sought. In gladly replying he refers to the fact that under the British system a



GEORGE E. HOLMES

Member of the Tax Committee of the American Mining Congress, who collaborated with Prof. Haig, of Columbia University, on one of the most valuable and authoritative contributions of the year on the subject of taxation, "The Taxation of Excess Profits in Great Britain," a study of the British "duty" in relation to the problems in the United States. Both Mr. Holmes and Prof. Haig are warmly supporting the American Mining Congress proposal for a Federal War Tax Settlement Board.

condition like that now confronting us is quite impossible. "There," he describes, "the accounts are carefully examined and the tax liability determined by a capable government assessor, before the tax is assessed or collected, and their force of civil servants has proved equal to the task of keeping up to date with its work. They have the fullest possible provisions for appeals to administrative authorities and to boards organized and operating on the principle of arbitration by disinterested outsiders.

"Our civil service, in spite of its best efforts, has fallen far behind and unless some emergency organization is supplied it is difficult to see how the situation can be met," he informs the MINING CONGRESS. "A board of special commissioners, such as you suggest, would undoubtedly command the respect of the taxpayer and would deserve the confidence of the government. Congress should not hesitate to vest such a board with power to arrive at agreements with the taxpayer. The interests of the government would receive proper consideration.

"In the case of such taxes as the income and profits tax, the liability of the taxpayer rests to a very material extent upon items which represent mere estimates and valuations. There is a possibility of wide differences of opinion between the government and the taxpayer as to the correctness of these items and there is usually no absolute standard for determining which view is right. The only way to settle the problem satisfactorily is for the government to establish some body in whose intelligence and fairness the taxpayer has confidence, and to give power to this body to make decisions as their judgment may dictate after full consideration of the facts. The

British, who have had eighty years of continuous experience with income taxation, fully appreciate the necessity of elasticity in administration and grant to their local assessors, as well as to their higher officials, what seems to us to be an amazingly large degree of latitude in arriving at agreements and compromises with taxpayers. It would be foolish for us at this juncture to decentralize our system and vest our local authorities with power similar to that exercised by the corresponding British official. Before we can do that we must build up a force of skilled, responsible and able civil servants comparable with the British force. But the plan of the committee calls for the establishment of a board, which unfortunately must probably be temporary in character, which could safely be given power to arrive at decisions and there should be no hesitation in granting them the power. British experience plainly indicates that such power must be delegated to some factor in the administration if the income and profits taxes are to be promptly and fairly assessed.

"In a word, we must arrange for a prompt and certain determination of tax liability. To secure this we must empower some capable, intelligent and trust-

worthy authority to use their judgment and discretion in arriving at agreements with taxpayers. A board such as you propose would, I believe, be a body which could safely be entrusted with the necessary authority and the plan would undoubtedly meet the present emergency. A complete solution of our general problem rests fundamentally upon our ability to build up a capable, permanent force of civil servants."

Mr. Hurrey, whose opinions are largely based on three years' experience as one of the chief administrators of the unpopular 1917 and 1918 revenue laws, replies to the AMERICAN MINING CONGRESS that it "has arrived quickly and surely at the very heart of the taxation problem and evidently recognizes clearly that one of the greatest problems confronting the incoming administration is some kind of equitable settlement of the vast number of unadjusted income and profits tax cases. It is easy to follow the clear analysis which the committee has made of the situation and the solution

proposed is one which will appeal strongly to those who are hoping for a direct and final settlement of all these cases on a broad and comprehensive basis."

Many provisions of the revenue laws are altogether too inflexible to provide a satisfactory basis of according equitable treatment to all of the taxpayers affected, Mr. Hurrey agrees. He calls attention, on the other hand, to the fact that the law has been made intricate and difficult of interpretation by the very attempt of Congress to provide for every possible case which might arise. Under these complicated laws, which, despite all their refinement and qualifications, are nevertheless inflexible and arbitrary when applied to many individual cases, the Commissioner of Internal Revenue

has had an unenviable and almost impossible task to perform. With the solemn responsibility of interpreting and applying the law as he finds it to be, the commissioner and his subordinates have been under the necessity of asserting tax liability in many cases quite at variance with clear considerations of equity.

"The proposal of the AMERICAN MINING CONGRESS," continues Mr. Hurrey, "is the establishment of a separate independent board to be charged with the sole function of taking up and settling finally the more difficult of the tax cases which now confront the Bureau of Internal Revenue for settlement. The proposed membership of the board—nine in number—should be sufficient, if men of high standing and ability are selected, to command the confidence of the public. Presumably the board will be guided in its decisions by the provisions of the law, but would be free to exercise more discretion under the law than the Commissioner of Internal Revenue has heretofore exercised.

"I believe that some such arrangement for injecting finality and equity into the administrative decisions of the tax cases is essential if the government is to proceed with rapidity to collect the back taxes which are due, and if the business community is to be relieved of the

A FEDERAL WAR TAX SETTLEMENT BOARD.

"Absolutely necessary. Not pick and shovel methods, but blasting and steam shovel methods, are needed."—Prof. Plehn, University of California.

"Congress should not hesitate to vest such a board with power to arrive at agreements with the taxpayer."—Prof. Haig, Columbia University.

"Arrangement for injecting finality and equity into tax decisions essential for rapid collection of back taxes."—C. B. Hurrey, ex-Deputy Commissioner Internal Revenue.

"Commission to liquidate tax controversies absolute necessity."—C. M. Zander, Chairman Arizona Tax Commission.

"Important proposal. Situation requires the cutting of a knot."—R. N. Miller, ex-Solicitor Internal Revenue.

"If Revenue Bureau gets through the next two or three years without a breakdown, I shall thank God!"—Dr. T. S. Adams, Tax Advisor to Treasury, before House Ways and Means Committee Dec. 14.

incubus of uncertainty which now surrounds the whole question of back taxes.

"I think that Congress may well consider in connection with the committee's recommendations, the question of whether the proposed board should be separate and independent, or should be made an integral part of the Bureau of Internal Revenue, similar to the Advisory Tax Board which was some time ago discontinued. If the latter alternative was adopted, the power of closing cases finally would be vested in the Commissioner of Internal Revenue. This question is one of organization and it might be deemed advisable to place all of the responsibility for tax administration under one head so that the procedure of the board and of the bureau might be effectively co-ordinated."

Ex-Solicitor of Internal Revenue Robert N. Miller recently stated publicly that it was plain to him that "we have now reached a place where the disadvantages of final and quick judgment, and they do exist, are more than overborne by the advantages of getting this thing finished and done. Of course, we all want to do things absolutely right, and of course we realize the necessity of following principle, but we are in a situation here that absolutely requires the cutting of a knot. It is very, very important to consider the AMERICAN MINING CONGRESS proposal. That body has a better right maybe, certainly as good a right, to say something definite and forceful on this subject as any body in the United States. Mining is the most hazardous business in the country, and in spite of the hazards it has managed to pay practically ten per cent of the taxes paid by corporations. So it has a right to speak very definitely as to what ought to be done."

Mr. Miller also called attention to the necessity of more adequate salaries for Revenue Bureau employees, "to hold the good men that it has got and to get more," in order that the tax settlement board's achievements might be accelerated and aided.

The chairman of the Arizona Tax Commission, C. M. Zander, telegraphed his views succinctly but definitely: "Proposed commission to liquidate tax controversies absolute necessity."

The purpose and scope of the proposed settlement board were well described by George E. Holmes before the recent convention of the AMERICAN MINING CONGRESS: "What we need to cope with the extraordinary situation is a board of greater power than can be created under the present law, a board with powers particularly to compromise or arbitrarily fix taxes in cases where it is impossible to ascertain definite values or to determine fine points of law or accounting. Such a board would have an extraordinary task before it, and must necessarily adopt extraordinary methods to handle the situation. It is precisely what the courts will have to do eventually if these cases are appealed to the courts, and such a board, acting in a judicial or semi-judicial capacity, would relieve the courts of a great deal of burden, would most expeditiously settle cases (more quickly because away from the muddle in which we find ourselves at the present time because of war taxation), and could start in on the collection of current revenue and keep the business of the Bureau of Internal Revenue more nearly up to date."

That the seriousness of present conditions has not been exaggerated is shown by the statement of Dr. Thomas S. Adams, Tax Advisor to the Treasury Department, before the House Ways and Means Committee on December 14. "We must use the larger portion of the force and all the brains we can get, and more if we can possibly get hold of them, to get through with the audit of tax returns now in the bureau for the cal-

endar years 1917, 1918 and 1919," declared Dr. Adams. "In other words, if the Bureau of Internal Revenue, with the favor of Almighty God, and all the ability and talent it can possibly procure, gets through the next two or three years under any administration and under any party without a breakdown, I shall thank God!"

HYDRAULIC MINING REPORT BY CHIEF OF ENGINEERS

THE CHIEF OF ENGINEERS of the army in his annual report reviews regulations by that service of hydraulic mining, which operations are largely limited to the territory between Mount Lassen and the Yosemite Valley on the western watershed of the Sierra Nevada Mountains. Upon application by prospective miners, the engineers make investigation and issue permits to operate to those who provide satisfactory debris-restraining basins by the construction of dams. The cost of this work is \$18,000 per year. Last year one hundred inspections of hydraulic mines and barriers were made; nine applications for permits for hydraulic mining were received; nine authorizations to construct impounding works were issued and two annulled; seven permits were issued upon completion of impounding works; six permits were suspended and two revoked for failure to comply with rules; one permit was restored upon compliance with requirements by the permittee.

Operations of gold dredging companies under eight permits, and similar operations by numerous other companies for which permits were not required, were supervised. Inspections were made of twenty-five gold dredging plants and sixty-three quartz mine barriers, and five barriers were constructed under plans approved by the Engineers.

The Engineers have received 945 applications for permits for hydraulic mining. Seventeen mines are operating under permits and four others have been authorized to construct impounding works. Hydraulic mining on a very limited scale has been restored without adding any considerable amount of debris to that previously deposited in the drainage system of mining regions. Twenty-six quartz mines have constructed barriers to prevent passage of their tailings to navigable streams. Surveys have been made of portions of the Yuba, Feather, Bear and American rivers containing great deposits of mining debris.

Mine owners are required to bear all expenses incurred in complying with orders of the Engineers. Mine operators repay the cost of restraining dams with 3 per cent of their gross output.

Recommendation is made that investigation be had in detail of the possibilities for co-operative dam sites for the restraint of debris, in order to permit resumption of hydraulic mining to a great extent without injury to navigable streams; that gold dredging be more adequately guarded; and that the placing of tailings in navigable streams by quartz mines be more efficiently regulated.

Use of Electricity In Mines

"MINING LAWS on Use of Electricity in Coal Mines" is the subject of Technical Paper 71, by L. C. Isley, electrical engineer of the U. S. Bureau of Mines. Twenty-one states in their coal mining codes make reference to the use of electricity. This report embodies the results of a study of all such laws and references, and is intended to compare the interest taken by the different states.

GOVERNOR OF ALASKA LOOKS FOR EARLY REVIVAL OF PROSPERITY

THOMAS RIGGS, JR., governor of Alaska, in his annual report to the Secretary of the Interior, advocates the enactment into law of the McFadden bill. Collection of a bonus on gold from the manufacturer and payment of a premium to the producer, Governor Riggs points out, would be of material assistance to the gold mining industry.

Early re-establishment of the mining industry of the territory is forecast by the governor, who discusses the situation thus briefly:

"It is true that mining has never before been so handicapped as at present, that operating costs are practically prohibitive in places, and that transportation could hardly be worse, but I see great hope for the speedy re-establishment of the mining industry and many mining men with whom I have talked thoroughly agree with me.

"The gold prospects of the Kuskokwim Valley have attracted the attention of mining men throughout the country and one company already is doing extensive development work. Machinery has been shipped to the Nixon Fork of the Kuskokwim and preparations are being made to thoroughly exploit that district. It is reported to me that already enough high grade ore has been uncovered to more than pay for the heavy initial expenses. In the Kantishna district there is great activity, particularly along the silver lead lodes of great richness, and other new finds are being reported. Some hydraulicking projects, too, are being pushed. In the Fairbanks district some of the lodes show every indication of becoming mines. Chicago Island prospects, bearing high gold assays, have been bonded for large sums of money, with substantial preliminary payments. There is renewed interest in Admiralty Island and in the mines of Lynn Canal.

"Among the other districts of promise may be mentioned Willow Creek, Broad Pass, Portland Canal for gold and silver, Cape Prince of Wales for tin, and Prince William Sound for copper.

"There are more prospectors in the hills than at any time since the war, and experience has shown us that when prospectors are busy there is always some valuable mineral discovery made. We need, though, more prospectors. Transportation conditions, however, are the greatest handicap to successful mining. Until some cheap form of transportation is available we cannot hope to open up the great low grade mines of lode or placer. Development for the present will be only on those mines showing high values.

"Of material assistance to the gold mining industry would be the passage of the McFadden Bill (H. R. 13201) providing for a bonus on gold to be collected from the manufacturer and to be paid the producer."

Among new legislation and regulations which have already benefitted the territory, the governor cites the following:

Enactment of oil-leasing law and the fixing of minimum royalties.

Enactment of water power leasing law.

Elimination, with the approval of the Secretary of the Interior, of the reserved eighty-rod strip along navigable rivers.

Reimbursement of chrome producers for losses incurred while operating under encouragement from the government during the war.

Increased appropriations for roads and trails.

Authorization of increased appropriation for construction of the government railroad.

Slightly increased telegraph service.

The most important recommendations made by the governor are the following:

Enactment of the transportation-in-Alaska bill.

Enactment of the McFadden Bill.

Amendment of coal leasing law, exempting lessees from the payment of rentals and royalties for the first five years.

Consolidation of the various branches of the General Land Office in Alaska and the creation of the office of Secretary of Alaska separate from that of the surveyor general.

Enlarged activities of the Bureau of Mines.

Restoration of prewar appropriation to the United States Geological Survey for work in Alaska.

Restoration to the public domain of useless withdrawals and reserves.

Alfred H. Brooks, of the United States Geological Survey, is preparing a report on mineral resources and production in Alaska for 1920, and it is permissible to publish in advance some of his figures and conclusions.

GENERAL CONDITIONS.—Alaska mining began in 1880 and had produced, up to the close of 1920, minerals to the value of \$460,240,000, more than half of which is credited to the last decade. About seventy-five per cent of production for the twenty years came from bonanzas. It is the opinion of Mr. Brooks that such mining will continue, as the known bonanza deposits of the territory have not become exhausted and there are good prospects of finding others. Minerals won from low-grade deposits during the twenty years have a total estimated value of \$105,000,000. Most of this value represents gold.

PLACER MINING.—During forty-one years Alaska has produced gold to the value of \$320,000,000, of which \$221,642,000 came from placer mines. The value of the

Although the mining industry of Alaska as a whole suffered a serious depression in 1920, yet the value of the total mineral output was greater than in 1919, chiefly because of the great increase in the production of copper, largely to be credited to the four large copper mines in the territory. The value of the total mineral production of Alaska was \$19,620,913 in 1919 and about \$22,070,000 in 1920. The output of the gold placers has decreased, but that of the gold lode mines has been maintained.

Value of Mineral Production in Alaska in 1919 and 1920.

	1919.	1920.
Gold	\$9,426,032	\$8,000,000
Copper	8,783,063	12,400,000
Silver	705,273	900,000
Platinum and allied metals	73,663	80,000
Tin	73,400	20,000
Lead	72,822	142,000
Coal	343,547	380,000
Petroleum, marble, gypsum, quicksilver, etc.	143,113	148,000
Total	\$19,620,913	\$22,070,000

placer output in 1920 was \$3,630,000, a decrease of \$1,340,000 from 1919. "The outlook under present economic conditions for a revival of the industry as a whole is not hopeful," Mr. Brooks will say in his report.

GOLD LODE MINING.—According to the estimate of Mr. Brooks, fifteen gold lode mines and five prospects were operated in Alaska in 1920. They produced about 3,270,000 tons of ore, from which \$4,360,000 worth of gold and 106,000 ounces of silver were recovered. The 1919 output was 3,262,573 tons of ore, from which \$4,392,237 worth of gold and 108,691 ounces of silver were recovered.

COPPER.—Eight copper mines, the total which operated in 1920, produced approximately 330,000 tons of ore, from which 71,000,000 pounds of copper, 710,000 ounces of silver and \$12,000 worth of gold were recovered. The total copper production of Alaska during twenty years was thus brought up to 616,000,000 pounds.

MISCELLANEOUS METALS.—Alaska mines in 1919 produced 488,034 ounces of silver; in 1920, 887,000 ounces. Lead production, which amounted to 564 tons in 1919, totalled about 880 tons in 1920. Most of the increase of silver was won from copper ores, but the increase both in silver and lead was due in part to the mining of galena ores. Approximately thirty-one tons of steam tin concentrates were mined in 1920, as against about eighty-six tons in 1919. Some quicksilver was also produced in 1920, and likewise some cinnabar and some marble. Gypsum, sulphur and garnet sand also were produced, as well as coal and oil.

ALASKA ROAD PROGRAM URGED AS MINING STIMULUS

ALASKA HIGHWAYS will be constructed upon a ten-year program if the recommendation made to Congress by the Chief of Engineers of the U. S. army is adopted. The Chief of Engineers asks for an appropriation of \$955,000. Increased cost of labor and materials have made gold mining in the territory unprofitable except upon the very richest claims, he says, while still higher wages have drawn prospectors and settlers to the United States, causing a serious depletion in the ranks of the sturdy manhood upon which the prosperity of Alaska rests. The Chief of Engineers stated his belief that this tide had turned, however, and that in a few years many ex-service men would go to Alaska and many who have left and are still leaving would return.

The Chief of Engineers reports the following roads under development:

Talkeetna, Takotna, Ophir and Ruby Road, 280 miles, in the Susitna and Kuskokwim District, which reaches from Ruby on the Yukon through the most promising mining district of the Kuskokwim, through Mount McKinley Park and Kalketna, on the government railroad. Sixty miles of road are under construction and the road will reach the most promising mineralized region of the Upper Yetna valley.

Davidson's Landing, Kugarok and Candler Road, 135 miles, Nome district, from tidewater through the Kugarok mining district to Kotzebue Sound at Candle.

Roosevelt Glacier and Riley Creek Road, seventy-five miles, Yukon district, connecting the important Kantishna mining district with the head of navigation on the Kantishna River and with the railroad at Riley's Creek.

Gulkana and Chistochena Road, forty miles, Copper River district, which will make accessible the promising Slate Creek mining district.

The Chief of Engineers lists important possible road projects as follows:

Alaska Peninsular Wide Bay oil fields, twenty-five miles. Reaches from tidewater at Wide Bay to oil fields now being prospected near Cold Bay.

Susitna Valley, Talkeetna Valley, and Iron Creek, forty-five miles, which will connect an important mining district in the Susitna Valley with the railroad.

Copper River Valley, Abercrombie (Copper River Railroad), Katalla, forty-five miles, making accessible the Katalla oil fields to the port of Cordova.

Katalla-Cape Yakatagam, eighty miles, reaching a new oil field now being prospected and otherwise inaccessible.

Yukon Valley, Forty Mile to Tanana Crossing, sixty miles, passing through an important mining district.

Susitna Valley, government railroad—Valdez Creek, fifty miles, making accessible to the railroad the important Valdez Creek mining district.

Strelina to Kuskulana River, sixteen miles, to important existing roads built by mining operators, making accessible important mining district in the upper Kuskulana Valley.

Chatanoka-Livengood, fifty-six miles, making accessible important mineral developments around Livengood.

Beaver-Caro, seventy-five miles, providing traffic between Chandalar mining district and the Yukon.

Eagle-Seventy Mile, forty miles, connecting the Seventy Mile mining district with Eagle.

Nome-Kugarok, sixty miles, connecting the Nome district with the Kugarok mining district and with the Davidson's Landing-Candle road project.

The \$955,000 appropriation requested for the coming year will complete the opening up of the Valdez-Fairbanks road and the Haines-Pleasant Camp road, finance the continuance of work on the Takotna-Ophir, Talkeetna-Cache Creek, Kantishna roads, and make possible the beginning of work on Kugarok-Candle, Eagle-Forty-Mile, Circle Chatnika, and Kulnana-Slate Creek roads.

During the year ended June 30, 1919, shipments of domestic gold and silver from the United States to Alaska amounted to \$98,523, and from Alaska to the United States to \$9,224,759. In addition, \$83,360 worth of foreign gold and silver was shipped from Alaska to the United States.

Alaska Work To Be Co-ordinated

ALASKAN ACTIVITIES of the federal government will be co-ordinated by a committee recently appointed by authorization of President Wilson. Members of the committee, as announced by Secretary of the Interior Payne, are Major Clarence O. Sherrill, of the War Department; James B. Corridon, Postoffice Department; George A. Parks, Interior Department; E. A. Sherman, Department of Agriculture; Dr. Hugh M. Smith, Department of Commerce; H. Y. Saint, U. S. Shipping Board; O. C. Merrill, Federal Power Commission, and Governor Riggs, of Alaska.

In his letter authorizing appointment of the committee President Wilson said:

"In view of the work of the different departments in dealing with Alaska, I approve the formation of an inter-departmental committee. The function of the committee is to co-ordinate and bring together facts and suggestions touching matters affecting Alaska and make recommendations for definite action to the department charged with the particular function, to the end that duplication may be avoided and efficiency secured.

"While the work of the committee is advisory, it is believed that by bringing together all available information and providing for an exchange of views by representatives of the different departments, much of the difficulty now experienced in dealing with Alaskan affairs will be obviated and speedy and intelligent co-operative action secured."

WATER ROUTES NECESSARY FOR ALASKAN PROSPERITY

WATERWAY DEVELOPMENT is the key to Alaskan transportation problems and, therefore, to the prosperity of the territory, according to the Coast and Geodetic Survey, which in its annual report seeks an increased appropriation. Many examples of the need of preliminary surveying are cited.

Marble deposits in Davidson's Inlet are of high quality, the report sets out, and a company was organized to work them and ship to Seattle, but as the approaches to the quarry had not been surveyed, the steamship companies declined to send vessels there. Later a survey was made, a channel was developed, and shipments to Seattle began. The business has grown.

Another example cited was the situation at Khaz Bay on the west coast of Chicagof Island. An outcropping of gold bearing quartz was discovered and development work showed a rich claim, revealing nuggets and wires of free gold. An assay of choice samples revealed a gold content as high as \$2,200 per ton of ore. But because the mine was situated at the head of a small unsurveyed bay known to be dangerous, steamship companies refused to send vessels either to take in machinery or to bring out ore, except at prohibitive cost.

Pointing out that communication between Alaskan ports is by water, the Survey takes the ground that capital spent in developing gold mines and opening coal fields will be wasted if vessels cannot ply safely between ports. The interests of invested capital must be safeguarded by surveys.

The Survey intends to establish at Kantishna a permanent station for supplies of fuel supplies at a cost of \$22,500. It is unfortunate, the Survey holds, that vessels have to depend upon foreign coal and are often delayed because Australian and Canadian fuel is not always available for Americans. The Survey proposes to construct a wharf which can be used by large vessels for storing coal and supplies connected with its fuel operations.

Extensive mineral resources remain undeveloped, the report sets out, because of lack of economical transportation facilities along the coast, this condition prevailing from the waters of Prince William Sound westward to Unimak Pass. Here, and at the head of Cook Inlet, where there is considerable mining, the Survey would expend some of the funds of the increased appropriation.

MINE STATION HEADS TO MEET AT BERKELEY

WESTERN EXPERIMENT station superintendents will meet at Berkeley, Cal., January 24-25, 1921. The Southwest, Intermountain, Rare and Precious Metals, Northwest and Pacific stations of the U. S. Bureau of Mines are included. Following is the tentative program, announced by Dorsey A. Lyon, supervisor of mine experiment stations:

January 24.

First Session (10 a.m. to 12:30 p.m.). Each superintendent will discuss the work of his station as regards: (a) The work which his station has accomplished or completed which is of direct benefit to the mining industry; (b) The work in hand; and (c) The work contemplated.

Second Session (1:30 p.m. to 5 p.m.). Discussions of the following subjects:

1. (a) Value to the stations of the technical literature reference cards prepared by Miss Stimson at Pittsburgh; written discussion by T. T. Read; oral discussion led by Thos. Varley; (b) The semi-monthly library bulletin of the Pittsburgh Experiment Station; discussion led by Thos. Varley.

2. Discussions contributed by H. E. Meyer: (a) How the field stations and offices of the Bureau can co-operate to the best advantage in the handling of the general administration of the Bureau's work; (b) How the chief clerk's office can co-operate to the best advantage in the handling of the general administration of the field office and field station work.

3. Service rendered to the experiment stations by the office of the supervisor of stations; written discussion by J. D. Secrest.

4. Distribution of Bureau publications at field stations and offices; written discussion by T. T. Read.

5. Proposed designation of special disbursing agents at certain field stations of the Bureau.

January 25.

Third Session (8:30 a.m. to 12:30 p.m.). The following conferences will be held: (a) Conference between the deans of the mining schools represented, the supervisor of stations and the assistant director; (b) Conference between the deans of the mining schools represented, station superintendents and other Bureau officials. The following subject will be discussed: "The ideal co-operative agreement between the Bureau and its co-operating agencies." This discussion led by E. A. Holbrook.

Fourth Session (1:30 p.m. to 5 p.m.). Conference between the deans of the mining schools represented, station superintendents and other Bureau officials. Discussion of the following subjects:

(1) What the government service offers to engineers, geologists and chemists; discussion led by C. E. van Barneveld;

(2) How the Bureau may assist the schools in stimulating research and investigational work in their mining and metallurgical departments; discussion led by Deans Joseph F. Merrill and F. C. Lincoln;

(3) How the Bureau may assist the schools in maintaining a closer contact with the mining and metallurgical industry; discussion led by Deans Milnor Roberts and G. M. Butler;

(4) How the Bureau may assist the industry, as likewise the schools, in solving the mining and metallurgical problems which are at the present time confronting the mining and metallurgical industry; discussion led by Dean F. H. Probert.

January 26.

Fifth Session (8:30 a.m. to 12:30 p.m.). Discussion of the following subjects: (1) The Bureau's program on flotation; discussion led by Dr. S. C. Lind. (2) Service that can be rendered to the other stations by a chemical research laboratory at the Pacific Station; discussion led by Dr. L. H. Duschak. (3) Service that can be rendered to the other stations by the electrochemical-metallurgical section of the Northwest Station; discussion led by O. C. Ralston.

Sixth Session (1:30 p.m. to 5 p.m.). The following conferences will be held: (a) On the production of sponge iron; (b) Miscellaneous subjects.

HOW SECRETARY DANIELS SOLVES THE NAVY'S OIL AND COAL PROBLEMS

THE SUGGESTION that many industrial plants may be compelled to abandon their oil-burning equipment and return to the use of coal, together with a full discussion of the oil situation as respecting the navy's needs; the decision to develop the Chicaloon, Alaska, coal field, and the utilization of scrap metals during the year operate to make the annual report of Secretary of the Navy Josephus Daniels of more than passing interest to the mining industry.

The Secretary in his report has the following to say about the navy's oil needs and his plan for meeting them:

"Assuring an adequate supply of fuel oil is so essential to the future of the navy that it is a subject which must engage the most serious attention. The supply of crude oil in the earth within the limits of the United States, experts point out, is rapidly becoming exhausted, while consumption is increasing enormously. In the early part of 1913, shortly after I became Secretary of the Navy, in response to an inquiry by the Navy Department as to whether the navy would be justified in constructing oil-burning ships, the Interior Department gave assurance that its experts felt that the oil supply would be adequate for many years to come.

"The United States Shipping Board is building practically all oil-burning vessels, and American requirements for this purpose have grown from a comparatively small quantity three years ago to a possible consumption of 50,000,000 barrels per annum in the near future. Industries where fuel oil is an essential have increased largely, while many industries where it is not essential have been converted to oil burning. It may be necessary for a way to be found to conserve oil for use afloat by reconverting industrial plants so that they may burn coal instead of oil, leaving the oil for naval and merchant ships which must have oil for long voyages and for cheaper operation.

"The military characteristics of a modern man-of-war absolutely demand the use of fuel oil. The amount of oil required for the navy is constantly increasing, and will continue to increase as coal-burning vessels are replaced by modern dreadnaughts and battle cruisers; nor must it be lost sight of that a battle cruiser has more than six times the horse power of the old battleship which she displaces.

OIL RESERVES ESSENTIAL FOR FUTURE.

"For the most efficient operation of the navy there are required: First, a commercial supply of oil for use in peace times where oil should be provided at a fairly reasonable cost; second, a reserve storage sufficient to carry the navy through the critical period when the reserves are being developed to replace and augment the commercial supply which may be partially cut off by war; third, underground reserves which can be quickly developed for use in war time or at such other periods as may be necessary to supplement the commercial supply.

"Current supplies of fuel oil are now being obtained under contract from various commercial suppliers. The present reserve storage is seriously depleted, but with return to normal conditions it is hoped that the apparent world shortage of fuel will be relieved and our reserve storage can be filled to capacity and materially increased. Present power to commandeer oil for naval needs should be continued."

The navy has three petroleum and two oil shale reserves in California and Wyoming. Estimates of the

Geological Survey place the recoverable contents in Reserve No. 1 at 100,000,000 barrels, while other estimates vary from 25,000,000 to 125,000,000 barrels. Recent developments in this field by the Standard Oil Company tend to confirm the view that the reserve has great possibilities. It is estimated that Reserve No. 2, including Southern Pacific lands, contains 335,000,000 barrels of oil. Reserve No. 3, near Casper, Wyoming, is estimated to contain 30,000,000 barrels of high-grade oil. While the entire reserve is covered by claims, none are considered valid by the navy or the Department of Justice. Although under the Leasing Law producing wells within naval reserves can be leased, the Secretary says that, in view of the fact that there are no producing wells in either Reserves Nos. 1 or 3, the navy's interest therein can be considered well protected. Owing to its physical contour and the scattered location of producing wells, Secretary Daniels questions whether Reserve No. 2 can be maintained without great loss of oil due to drainage by the present wells and by wells drilled outside of the reserve. The policy to pursue with respect to this reserve, he holds, must be determined after the Leasing Law has been in effect for some time and after the drilling policy of oil companies operating outside of the reserve is known.

Oil Shale Reserve No. 1, containing 45,440 acres, and No. 2, containing 86,584 acres, are located in Colorado and Utah and are estimated to contain one billion barrels of oil. The Secretary says that obtaining oil from shale is a mining and manufacturing question and that as soon as petroleum resources are depleted so as to make the process commercially profitable the shale industry must develop into a business of magnitude and importance.

COMMANDEERING FOR FUEL RECOMMENDED.

Secretary Daniels recommends that permanent authority be given the navy to commandeer fuel supplies, including coal, fuel oil and gasoline. He reports that adequate fuel stocks to meet the needs of the fleet and guard against interruptions in delivery were maintained during the year, but that the prices demanded, especially for coal, were so exorbitant that it was necessary to resort to commandeering orders to secure coal at reasonable rates. Repeated efforts were made to obtain supplies of coal and oil through competitive bidding, but the quantities offered were insufficient and the prices were excessive. By negotiation the navy's petroleum needs were finally covered by satisfactory contracts, but for coal the only alternative was to continue commandeering.

FUEL OIL STORAGE.

Five large depots for fuel oil are now ready for service, providing storage facilities as follows: San Diego, 4,200,000 gallons; Pearl Harbor, 15,000,000 gallons; Puget Sound, 12,000,000 gallons; Yorktown, 30,000,000 gallons; and Guantanamo, 15,000,000 gallons.

NAVY DEVELOPMENT OF ALASKA COAL.

The most important administrative problem concerning the Pacific Fleet is the maintenance of an adequate fuel supply, the Secretary says. Wells of the Southwest are regarded sufficient for oil-burning vessels, and

the Secretary, basing his opinion on that of experts, holds that the Chicaloon mines, in Alaska, offer sufficient promise to warrant energetic continuation of exploration work. While it is impossible to make an accurate estimate of the amount of coal in these mines, it was roughly estimated that 250,000 tons of minable coal were exposed. The Chicaloon mine contains 480 acres.

A shaft has been sunk 571 feet deep to a 16-foot seam of coal. Up to July 1 of this year 9,793 tons of coal had been mined and approximately 150,000 to 200,000 tons were in sight. When washed, this coal meets the navy standard. The coal will be washed at the plant operated by the Alaskan Railroad, thus avoiding the necessity of constructing a separate washing plant. The plant will have a capacity of 40 tons per hour and will handle coal mined by both the Interior and the Navy Departments. Facilities for shipping and storing can be located at Seward and Anchorage.

METAL AIRPLANE CONSTRUCTION.

The Secretary says there are advantages in metal construction of airplanes. For seaplanes metal construction is more desirable than for land planes.

High-strength alloys of aluminum, known as duralmin, which originated in Germany, but is now being produced in this country, and light strip alloy steel of high strength and extreme ductility, are considered by the Secretary as materials which give promise in metal plane construction. "We are not yet prepared to build planes of metal equally light and strong as those built of wood," says the Secretary, "but we shall soon be building planes in an experimental way which will compare favorably with those of wood, and with the rapid development of the art we may predict that within a reasonable time metal construction will supplant wood for at least the majority of naval planes."

MILLIONS SAVED IN SCRAP METALS.

Utilization of scrap metal has resulted in a substantial saving, the Secretary said. Previous to 1915 all of the navy's scrap non-ferrous metal was sold for whatever it would bring, but a smelting plant was established at Portsmouth, New Hampshire, Navy Yard, where all non-ferrous scrap has been sent to be made into ingot metal for re-use in the foundries. About 23,000,000 pounds has been furnished from this plant at an average cost of 10.6 cents per pound as compared with a cost of 22 cents for the original metal. The Secretary estimates the saving at \$2,630,000. The Portsmouth plant has also aided in supplying foundries with alloyed ingot metals which were difficult to purchase in the open market.

There has also been installed at Portsmouth a washing plant for the recovery of metal from by-products, such as ashes, sweeps and skimmings, which material was formerly discarded. Navy yard foundries are allowed a credit of 1½ cents a pound for this material. The washing plant has handled about 2,500,000 pounds of skimmings, recovering one million pounds of metal valued at 10 cents per pound. The building, material and equipment cost about \$50,000 and a net gain of about \$50,000 has resulted in eighteen months. The smelting plant has for three years supplied the navy with 120,000 fishing and sounding leads, weighing from 2 ounces to 80 pounds, all produced from old lead scrap.

The Secretary says that the navy has been buying supplies abroad at reduced prices, and refers to the purchase through Singapore of 672,000 pounds of tin at a saving of \$16,800.

NO CHANCE FOR FUEL FAMINE TO HIT U. S. SEA FIGHTERS

NO FUEL FAMINE, had one really occurred during the last year, could have affected the United States navy, according to the annual report of the Paymaster General of the sea-fighting forces, which says that stocks of coal, oil and gasoline were maintained at all times in quantities sufficient to meet any emergency.

The navy's coaling stations at Portsmouth, Boston, Melville, Charleston, Key West, Guantanamo, Cuba, Panama Canal, San Diego, Tiburon, Puget Sound, Pearl Harbor, Cavite and Tutuila are supplied by water transportation from Hampton Roads. Other fueling plants in the United States, principally Constable Hook, are supplied by rail.

Leases for fuel oil storage plants at Sewall's Point, Hampton Roads, and Cristobal, Canal Zone, were renewed during the year. At the Panama Canal, oil suitable for naval vessels is not carried in stock either commercially or by the Panama Railroad and efforts are being made to obtain from excess stocks of the War Department gasoline tanks of from 2,000 to 50,000 gallons capacity for placement at points along the Atlantic where the maintenance of bulk storage is necessary.

The Paymaster General states that coaling plants at some of the more important ports, particularly Boston and New York, are not located on government-owned land. Because of tremendous demand for coal and oil, commercial storage is not adequate and the government has large investments of capital in coaling plants on rented ground at these points. Although the size of the fleet is constantly increasing, there is no available space for fuel storage in the Boston or New York navy yards. The Paymaster General says that sound business and naval policies require that the control of these plants be secured by the government by purchase of the land. Such leased land at Constable Hook was purchased by a firm which immediately notified the navy to vacate.

Coal piles maintained as war measures at Rio de Janeiro, Bahia, Montevideo, Halifax, St. Thomas, the Azores and Bermudas have been discontinued.

Efforts have been made to obtain required supplies of coal and oil through competitive bidding, but the quantities offered have been inadequate and the prices asked have appeared excessive. By negotiation a supply of petroleum products has been covered by satisfactory contracts, but in obtaining coal no other course was open than to continue naval orders in effect as provided by law and to require delivery in accordance therewith. Arrangements have been made in one case to provide for delivery by contract of 3,000,000 barrels of bunker oil "A" under conditions which require the contractor to refine the oil under government supervision and inspection, which, the report states, should be a material factor in the navy's oil supply in the future.

The report gives the consumption of fuel and oil by the navy during the year as follows:

1,545,000 tons steaming coal at average cost of \$5.90 per ton, \$9,115,550; 45,000 tons anthracite coal at average cost of \$8.50 per ton, \$328,500; 6,000,000 barrels fuel oil at average cost of \$1.58 per barrel, \$9,480,000; 35,000 barrels gas oil at average cost of \$2.85 per barrel, \$99,750; 356,000 gallons distillate at average cost of 10½ cents per gallon, \$37,380; 6,000,000 gallons motor gasoline at average cost of 21 cents per gallon, \$1,260,000; 750,000 gallons aviation gasoline at average cost of 28 cents per gallon, \$210,000; total, \$20,585,130.

Shipments of coal and oil by water were made in naval colliers and tankers, but as the number of these

vessels was insufficient, vessels were chartered from the Shipping Board and private owners.

Pacific coast coaling plants must be supplied from Hampton Roads, Va., but rail shipments of coal to such distant points are expensive and are resorted to only when absolutely necessary. During the year eighty-one vessels other than government owned were chartered, and they handled 352,120 tons of coal at a cost of \$3,015,640. The boats were chartered without special difficulty, but the Paymaster General notes an acute shortage of tanks and says the procurement of a sufficient number of vessels of this class to meet all requirements is of vital importance.

It is noted that the lack of railroad equipment has been seriously felt in navy shipments, particularly the lack of open-top cars suitable for coal transportation. The hope is expressed that by freight increases recently granted by the I. C. C. this condition will be remedied. Forty-eight tank cars which were purchased during the war for the transportation of liquids entering into the manufacture of explosives, have since been assigned to navy yard stations for storage purposes and use in making emergency shipments of fuel oil.

COAL AND OIL DEALINGS OF BUREAU OF ENGINEERING

THE NAVY BUREAU of Engineering reports the completion during the last year of eight fuel oil barges and one fuel ship. Two fuel ships are under construction.

The new foundry at the Norfolk navy yard is practically completed and in operation with a daily capacity of ten tons of brass and steel and fifty tons of iron.

At the Mare Island and Puget Sound navy yards, \$300,000 worth of tools reverting to the government from the plant extensions at the Risdon Iron Works of the Bethlehem Shipbuilding Corporation are being installed in the machinery division shops.

Endeavor has been made to broaden the field of competition on lubricating oils, refractory material, etc., in which co-operation is maintained with a fuel oil testing plant at Philadelphia. Through information obtained from these sources, manufacturers are advised of the bureau's requirements. A pamphlet on "Information for Oil Refiners" has been issued, giving clear and definite information as to what is expected of a lubricant for use in the naval service. It opens a field to all competitors of good commercial standing and safeguards the government's interest by excluding lubricants whose use might be injurious to machinery.

The bureau reports that during the year thirty-six new brands of lubricating oil and products of five different firms have been added to the acceptable list. The quality of fire brick, fire cement and other refractories has been maintained and improved owing to facilities afforded by the fuel oil testing plant.

The bureau has also designated standard stock material to be carried for assignment to vessels, which includes, among other things, fuel oil burning equipment, such as registers, atomizers, plugs and tips.

The bureau reports that the existing navy acceptable list and the supplementary list of mines were continued in use during the year with such revision as was desirable to maintain an adequate supply of coal for the navy. A navy commission inspected the Matanuska, Alaska, coal fields and upon its report the department decided to continue investigations there. Commander O. C. Dowling is the senior member of the Naval Coal Commission, which is now engaged in making a gen-

eral investigation of the facilities of this field for supplying coal to the navy.

Navy specifications for standard fuel oil were continued during the year, but to permit the use of heavier gravity in California oils the specifications for the west coast were amended so as to make acceptable oils having a viscosity not greater than 100 Engler at 700 degrees Fahrenheit. Kerosene specifications were continued, but gasoline specifications were amended to conform to those adopted by the Committee on Standardization of Petroleum Specifications. The 45 per cent distillation point was changed to 50 per cent with a corresponding change in the temperature, increasing the end point from 428 to 437 degrees F., permitting a considerable increase in the supply of standard gasoline with but a slight sacrifice of efficiency.

The bureau reports that while the land-leasing law of February 25, 1920, was not entirely satisfactory to the navy, it is believed the navy's interests are fairly well safeguarded.

FUEL SAVING REPORTED BY BUREAU OF YARDS AND DOCKS

THE BUREAU OF YARDS AND DOCKS reports the completion at the Philadelphia Navy Yard of a new central power plant and improved steam distributing system. This method of heat supply is said to have resulted in considerable saving in fuel.

Construction work on fuel oil storage plants at Guantanamo, Cuba, Melville, R. I., Puget Sound, Wash., San Diego, Cal., and Yorktown, Va., were completed or nearing completion. Two fifty-five-thousand-barrel tanks purchased for use in France but not sent over were sent to Cavite, Philippine Islands, very largely increasing the fuel oil storage capacity at that point. Preliminary studies for the storage of fuel oil at Hampton Roads were made but final designs were not prepared.

The bureau reports that the helium production plant at Fort Worth, Texas, is about ready for operation. Buildings and natural gas pipe lines from Petrolia to Fort Worth were completed and machinery and equipment is being installed.

Navy Surgeon General Also Has Fuel Troubles

THE SURGEON GENERAL of the navy in his annual report stated that labor conditions had interfered greatly with the keeping of a supply of coal at the Annapolis hospital. The effort to keep a month's supply on hand was altogether unsuccessful and at times there was only enough fuel to last one day, making it necessary to draw upon the stocks of the naval academy. He recommends that an out-door bin holding five hundred tons be built, as it appears to be impracticable to increase the existing bunker capacity sufficiently.

At the Pensacola hospital liveoak logs left by a building contractor were used during a coal shortage and a fifty per cent saving in fuel costs resulted.

The Surgeon General recommends a new ventilating system for the brass foundry at the New York navy yard, where fifty per cent of employees are reported as having had "brass chills," or "spelter shakes," while one-third of them showed marked signs of bronchial irritation.

LARGER APPROPRIATIONS SOUGHT BY GOVERNMENT DEPARTMENTS

Following are some of the more detailed appropriations requested of Congress for the support of the government for the year beginning July 1 next.

Salaries and expenses of collectors of internal revenue, \$4,288,000; no change from the current appropriation. Expenses of collecting revenue, \$33,000,000; increase of twelve million dollars.

MINTS AND ASSAY OFFICES.

Salaries, \$25,200, as against \$23,680 last year; freight on bullion and coin, \$15,000, no change; examination of mints and contingent expenses, \$7,000; increase \$600.

Carson, Nevada, mint: Salaries, \$5,200, increase of \$1,000, made up of \$600 for the assayer and \$200 each for the assistant assayer and clerk; wages of workmen, \$4,400, increase of \$2,400; contingent expenses, \$1,800, increase of \$300.

Denver mint: Salaries, \$46,900, increase of \$900; one clerk at \$1,200 omitted; increase of \$500 asked for superintendent of coin department, \$500 for chief clerk, \$200 for bookkeeper, \$500 for superintendent, \$200 each for assistant cashier and private secretary; wages of workmen, \$110,000, no change; contingent expenses, \$90,000, no change.

New Orleans mint: Salaries, \$5,900, increase \$400, or \$200 each for the assistant assayer and chief clerk; wages of workmen, \$6,250, no change; contingent expenses, \$2,650, increase \$650.

Philadelphia mint: Salaries, \$73,200, as against \$68,600 last year; increases of \$500 for superintendent, superintendent of coin department and chief clerk and \$200 increase for assistant bookkeeper and curator, one new clerk at \$2,000, three clerks at \$1,800, an increase of two and one in place of one at \$1,700; wages of workmen, \$350,000—current year appropriations, \$440,000; contingent expenses, \$140,000—current year appropriations, \$177,000.

San Francisco mint: Salaries, \$55,600, as against \$48,400 this year; increases, \$500 for superintendent, superintendent of coin department and chief clerk, \$200 for bookkeeper, \$300 for assistant assayer and \$200 for assistant cashier, four new clerks at \$1,400, \$1,600, \$1,800 and \$2,000, respectively; wages of workmen, \$200,000, no change; contingent expenses, \$75,000, no change.

Boise, Idaho, assay office: Salaries, \$5,400, increase \$1,200, made up of \$600 for the assayer, \$400 for the chief clerk and \$200 for the assistant assayer; wages of workmen, \$2,000, no change; contingent expenses, \$1,300, no change.

Deadwood, S. D., assay office: Salaries, \$5,000, increase of \$1,000, made up of \$600 for the assayer and \$200 each for the assistant assayer and chief clerk; wages of workmen, \$3,000, increase of \$1,000; contingent expenses, \$1,200, no change.

Helena, Mont., assay office: Salaries, \$5,400, increase of \$1,000, made up of \$600 for the assayer and \$200 each for the assistant assayer and chief clerk; wages of workmen, \$3,000, increase of \$500; contingent expenses, \$1,600, no change.

New York assay office: Salaries, \$60,250, as against \$53,400 this year; increases of \$500 each for the assistant assayer and chief clerk, \$250 for the assayer, \$250 for the deposit weigh clerk, \$350 for the assayer's assistant and \$150 for the bookkeeper; eight new clerks; wages of workmen, \$145,200, as against \$170,000 this year; contingent expenses, \$115,500, as against \$150,000 this year.

Salt Lake City assay office: Salaries, \$2,400, as against \$1,800 this year, made up of an increase of \$600 for the assayer; wages of workmen, \$1,500, no change; contingent expenses, \$600, no change.

Seattle assay office: Salaries, \$12,550, as against \$11,450 last year, increase of \$400 for the assistant assayer and chief clerk and \$100 each for three clerks; wages of workmen, \$17,200, as against \$15,000 this year; contingent expenses, \$6,000, increase of \$300.

Total for the mint service, \$1,603,200, as against \$1,754,180 this year.

GEOLOGICAL SURVEY.

Requested appropriations for the United States Geological Survey total \$2,469,140, as against \$1,730,700 this year. It is recommended that the salary of the director be increased from \$6,000 to \$7,500 and that an assistant director at \$5,000 be authorized. An increase of \$1,000 in salary for the chief clerk is asked, also the appointment of three new scientific geologists at \$7,500, \$6,000 and \$5,000, respectively, and also that two new engineers be authorized at \$6,500 and \$5,500 each. Two new division chiefs at \$3,000 each and an editor at \$3,120 are also requested. For general expenses the Survey asks \$500,000, an increase of \$150,000 over this year; for mineral resource investigations in Alaska, \$190,000, an increase of \$115,000; for reports of mineral resources of the United States, \$200,000, an increase of \$75,000; chemical investigations on potash salts, \$60,000, increase \$20,000; topographic surveys, \$600,000, increase \$270,000; gauging streams, \$300,000, increase \$120,000; general expenses on utilization of water power, \$25,000, as against \$125,000 this year; examination and classification of lands, \$300,000, no change.

MISCELLANEOUS.

An increase of \$1,500 in the salary of the director of the Bureau of Mines is also requested, making the salary \$7,500.

Increased clerical assistance is asked for the offices of the surveyor-generals of the various states, the appropriations requested for which are:

Alaska, \$20,890, increase \$2,070; Arizona, \$25,000, increase \$3,000; California, \$20,190, increase \$3,440; Colorado, \$26,190, increase \$3,790; Idaho, \$19,090, increase \$5,740; Montana, \$23,560, increase \$2,980; Nevada, \$17,940, increase \$2,380; New Mexico, \$27,100, increase \$4,300; Oregon, \$15,360, increase \$2,250; South Dakota, \$5,800, increase \$500; Utah, \$20,725, increase \$2,980; Washington, \$17,590, increase \$2,580; Wyoming, \$16,880, increase \$2,840.

An increase in salary of \$500 is requested for the governor of Alaska, making his salary \$7,500.

An increase of \$1,500 in salary for the director of the Bureau of Standards, making his salary \$7,500, is also requested. Total appropriations for the Bureau of Standards are estimated at \$2,179,440, as compared with \$1,217,360 this year.

It is requested that the Interior Department be allowed to draw \$55,000 from Indian funds to pay expenses in connection with oil and gas production on the Osage, Okla., reservation.

Salaries of registers and receivers of land offices, \$475,000, increase of \$25,000; contingent expenses, land offices, \$425,000, increase \$50,000; protecting public lands, \$650,000, increase \$500,000; surveying public lands, \$700,000, no change.

Recoinage of gold coins, \$5,000, no change; recoinage of minor coins, \$10,000, no change.

Aftermath of the Denver Convention

AT THE EXHIBITION of the AMERICAN MINING CONGRESS a device that was of great value in the war is introduced for practical use in the mines of America. This is the geophone, the delicate mechanism of which reported to those in the American trenches all that was going on in the German excavations many yards away. It was like using the solid rocks for a telephone. A man buried a hundred fathoms deep in a mine could be located and possibly communicated with, or at least his operations understood. This would be fine for anyone wishing to get in touch with Governor Cox.—*Los Angeles Times*.

THE LETTER written by President-elect Harding to the AMERICAN MINING CONGRESS, in session at Denver last week, is reassuring. It goes to prove that the coming administration in outlining its policies intends to take counsel with men who are experts in those lines which may come up for discussion.—*The Black Diamond*.

Twenty-three years of service in behalf of the mining industry.—*Phoenix Mining Journal*.

THE TWENTY-THIRD convention of the AMERICAN MINING CONGRESS was the most successful ever held in its history.—*Oatman (Ariz.) Mining News*.

DENVER has had the pleasure of entertaining the greatest body of mining men that has ever assembled within her gates. Every branch of the industry was in attendance at the interesting and profitable session of the AMERICAN MINING CONGRESS and serious consideration and recommendations were given to the welfare of the industry. The big men of the mining business were present and Denver was at her best with hospitality and gala decorations to make the delegates feel at home. Members of the CONGRESS were present from thirty-two states of the Union, from Alaska, Canada, the Philippine Islands and other foreign lands. It was a business session from start to finish—the business in hand being to make the mining industry more prosperous.

Investors will profit as a result of the greater prosperity. The CONGRESS is continuously at work to help the producers of all metals, and Congress at Washington and the nation will listen to and act upon the recommendations of the splendid organization that met in Denver last week.—(*Denver*) *Daily Mining and Financial Record*.

THE MESSAGE sent by President-elect Harding to the AMERICAN MINING CONGRESS, and which was published in the Tele-

gram's report of the proceedings of the great convention of the mining interests of the country, doubtless eventually will be classed as a historic document in the history of the mining industry of America.

So far as known, the message is the first that has been sent by any President or President-elect to a gathering of mining men of the country, and therefore it is a precedent in the recognition of the mining industry as one of the great industries of the country.—*Ira C. Tichenor in Salt Lake City Telegram*.

Mining Congress Membership A Good Investment

George Wolfe, of Beckley, W. Va., secretary of the Winding Gulf Operators' Association, after attending the Denver convention, wrote the following to the secretary of the American Mining Congress:

"I believe I learned more in the five days that I was in attendance at this convention than in any other five days of my life, and I certainly know that I enjoyed myself as much or more than any other similar period of time. It takes three days and three nights to go from Beckley to Denver, but the trip was well worth the time and trouble.

"I have spoken enthusiastically to our people with reference to the size and power of your Association, and have advocated that no better investment could be made than for each company to have one of their executives become a member, even if they only attended your annual gatherings."

Accompanying the letter was a copy of a bulletin which Secretary Wolfe had sent to members of the Winding Gulf Operators' Association, summarizing the activities of the convention and closing with the statement that "It would seem as if it would be a splendid investment for any coal company to have one of their executives become a member of the American Mining Congress."

ACCORDING to Jesse F. McDonald, manager of the Down Town Mines Company, who recently returned from the MINING CONGRESS in Denver, the CONGRESS enjoyed an unusually good representation and a representation of exceptionally high-class men, including engineers and operators of fame.—*Leadville (Col.) Herald*.

RETURNING from Denver, where he attended the sessions of the AMERICAN MINING CONGRESS, George H. Dern, Salt Lake City mining man, said that he was particularly pleased with the spirit of sincerity, earnestness and fairness with which the big problems that are confronting the mining industry were approached.—*Bingham (Utah) Bulletin*.

WHETHER OR NOT a person is interested in mining or oil, a visit to the exposition during the recent MINING CONGRESS in Denver would be a profitable trip. In the displays were to be found about everything that is used in the mining and oil industry, from oil in the crude form up to the refined product. Machinery of all kinds were shown as well as all sorts of tools, blasting powder and other things, the entire exhibit being one of the most complete ever shown in the western country.—*Golden (Col.) Republican*.

PRONOUNCED the most successful in matter of accomplishment in the history of the organization. The program in its entirety was carried through as scheduled and the further advancement of the mining industry will be brought about through the adoption of resolutions and provisions for an enlargement and increased activity.—*Boulder (Col.) Miner*.

WELL ATTENDED and the best meeting in the history of the CONGRESS.—*Rolla (Mo.) Era*.

ONE of the most important meetings of the AMERICAN MINING CONGRESS ever held.—*Kingman (Arizona) Miner*.

One of the big features at the session of the AMERICAN MINING CONGRESS in Denver was the display of mining and milling equipment held in conjunction with the session. Old timers say that the exhibits compared in magnitude with the displays at the Chicago and St. Louis fairs. Of course the exhibits at the world fairs were of greater magnitude, but from an educational standpoint they were not as complete. The AMERICAN MINING CONGRESS is to be congratulated upon the great exhibits it brought together for its session. The public was vitally interested and the display proved of great educational value.—*Denver Record*.

THE TWENTY-THIRD Annual Convention of the AMERICAN MINING CONGRESS in Denver was attended by mining men from all over the country and the session was the most successful of any held since the organization was formed. Numerous subjects affecting the mining industry were gone into exhaustively and an important program of legislation that will be brought before Congress was agreed upon.—*Central City (Col.) Observer*.

THE SESSIONS of the AMERICAN MINING CONGRESS are of especial importance to the state of Arizona, as well as being of national significance.

Undoubtedly out of the conferences will come such a decision on the part of the great mining interests as will insure the revival of the industry under the benevolent assistance of the federal government. One could almost be safe in saying that the National Congress might well pass without material change such legislation as the MINING CONGRESS asks, for the conclusion is obvious that their deliberations will point to a solution which, in reviving the industry, will increase the output of needed metals, speed up business, and give employment to thousands of skilled workmen.

The day has gone by when the people of the United States are ready to swat capital, merely because it is capital, and under the delusion that all swatting is progressive. Unfortunately much of it that has gone before has been nothing but destructive.

Senator Harding and a Republican Congress are pledged to the building of business, the commerce and the industry of the nation. In that condition, it is small wonder that the mining men gathered in Denver, are taking heart and tackling the problems of the future with faith.—*Tuscon (Ariz.) Citizen*.

THE REAL LEADERS of the mining industry of the nation are Denver's guests this week. The Twenty-third Annual Convention of the AMERICAN MINING CONGRESS has brought together in this city men of unusual character and highest standing for conference and exchange of ideas upon advancement of the mineral, coal and oil productions necessary to the welfare of the country. They are the men of ability and initiative who keep their industry ever going forward, despite adversities. The business phases of their meetings, the phases of interest to all lines of activity, are particularly noteworthy and reflect the kinship and solidarity of all industry and all business.—*Denver Commercial*.

CONSTRUCTIVE LEGISLATION for the benefit of the mining industry was recommended on a broad scale by the AMERICAN MINING CONGRESS at its meeting in Denver last week, which was one of the most important gatherings ever held by this organization. The discussions at the CONGRESS and the various conferences of committees covered every phase of the industry,

from the passing of the prospector, the labor problems, taxation, specific legislation, and on to the crisis that confronts the gold mining industry.

Taken in its entirety, the plans formulated by the MINING CONGRESS for the advancement and protection of American mining was of a comprehensive and broad-gauge character, fostered by the foremost mining men of the nation, and the recommendations will undoubtedly have great weight and be accorded due consideration in the forthcoming National Congress at Washington.—*American Mine Reporter (San Francisco)*.

ANTHRACITE SHIPMENTS CUT BY STRIKES

ANTHRACITE SHIPMENTS from April to October, inclusive, amounted to 39,720,654 gross tons, as compared with 41,771,313 during the same period of 1919. The decrease was 2,050,659 tons.

"The decreased tonnage this year was due almost entirely to the outlaw railroad switchmen's strike in April and to the various 'vacation' strikes of the miners in September," according to conclusions reached and announced by the Anthracite Bureau of Information, Philadelphia.

Average shipments for the five normal months of this period were 6,262,699 tons, but shipments during April were 1,448,486 tons below this figure, while the loss in September was 2,669,743 tons, or nearly twice as great. Total shipments for the period of seven months are more than 4,000,000 tons below what they should have been, and what they would have been but for the unauthorized rest periods taken by the switchmen and the mine workers.

Shipments by months follow: April, 4,814,211 tons; May, 6,155,878 tons; June, 6,319,957 tons; July, 6,389,100 tons; August, 6,207,653 tons; September, 3,592,954 tons; October, 6,240,901 tons; total, 39,720,654 tons.

Census Bureau Compares Anthracite Operating Conditions

THE CENSUS BUREAU has issued a report comparing Pennsylvania anthracite operations in 1919 with those of 1909, showing a decrease in the number of breakers and wage earners. Wage earners decreased from 169,174 to 147,069, or thirteen per cent, although wages paid increased from \$92,169,906 to \$210,202,511 in the ten years covered. There was also a decided increase in operating costs. Coal production showed an increase of 6,302,000 tons, or 8.8 per cent, and value of output increased from \$145,881,000 to \$364,243,000.

War Minerals Claims Settled

WAR MINERALS CLAIMS to the number of 1,124 have been acted upon, leaving only 83 unsettled, according to a report of the War Minerals Commission which was complete to November 27. The commission expects to finish its work by February or March.

Claims for \$15,827,479.62 were considered and awards totalling \$2,357,491.35 were recommended. The total war minerals appropriation was \$8,500,000. Administrative expenses have totalled 2.07 per cent of the settlements. Expenses and settlements amount to \$2,687,092.42. If the ratio of awards to claims, 32.9 per cent, is maintained with respect to the claims remaining to be adjudged, the commission will wind up its work with a balance on hand of \$5,500,000, or considerably more than half the entire war minerals appropriation.

NATIONAL LEGISLATION

UP TO THE TIME we go to press, December 20, there have been introduced in the final session of the Sixty-sixth Congress 993 bills; 182 in the Senate, and 811 in the House. Many measures of interest to the mining industry are included, among them being bills providing for government control of the coal industry, suspension of annual assessment work on mining claims, suspension of immigration and emergency tariff schedules.

Hearings on tariff revision will be held by the House Ways and Means Committee beginning January 6. Those interested in metals and the manufacture thereof are scheduled to appear January 12, 13, 14.

Both Senate and House have passed the bill moving forward the time limit for doing 1920 annual assessment work from December 31, 1920, to July 31, 1921.

Senator Chamberlain has introduced a bill amending the mining laws, with particular reference to placer and quartz entries. The bill is reviewed in the following resume.

The House Ways and Means Committee is considering revision of internal revenue laws, and many of those interested have been granted hearings. Secretary of the Treasury Houston opposes the general sales or turnover tax and favors a general reduction of the higher surtaxes and increases in the lower surtaxes, and the repeal of the excess profits tax. He advocates increasing the normal income tax to six and twelve per cent.

Senators Calder, Edge and Kenyon each has issued statements advocating regulation of the coal industry. Their committee is preparing a measure which will soon be submitted to Congress.

At the suggestion of Congressman Garner, the McFadden bill has been referred to the Attorney General with a request

for his opinion as to its constitutionality.

The House has passed the Senate bill which creates a commission of three senators and three congressmen to investigate government departments with a view to readjusting their activities so they will not overlap.

The Senate passed the Poindexter Anti-Strike bill on December 16. A review of this measure is found in the following

important measures of interest to the mining industry now before Congress:

COAL

H. R. 14755. (Regulating price and sale.) Introduced by Mr. McLane; referred to the Committee on Interstate and Foreign Commerce. The bill provides that the Interstate Commerce Commission shall be empowered to fix the price of coal, kind and quality considered, whenever and wherever sold either by producer or dealer; to establish rules for the regulation of and to regulate the method of production, sale, shipment, distribution, apportionment, or storage thereof among dealers and consumers; and to have such other powers relating thereto as it now exercises over railroads and common carriers. The commission, however, shall not fix prices at small mines producing coal for local consumption unless so requested by petition or complaint; neither shall it be required to fix prices for the sale of coal by retailers unless similarly requested. Section 2 provides that any committee or agent authorized to represent a city, town, state, or group of the same, upon application to the Interstate Commerce Commission shall be issued a permit giving access to any records which have to do with the production, sale, shipment, transportation, distribution, apportionment, or storage of coal as will give adequate information, whether or not the provisions of this act are complied with and observed. Section 3 provides that until such time as the commission can put into effect its control of the coal industry the following regulations are to govern the production and sale of coal:

"The wholesale price of coal, kind and quality considered, at any mine shall in no case exceed the 'base price,' so called, fixed by the authority of the federal government. The wholesale price of coal not at the mine and sold through a broker or agent shall in no case be more than 20 cents a ton in advance of the base price at the mine plus the authorized transportation charge from the mine. In the sale and shipment of coal at the mines and elsewhere, orders from

"GENTLEMEN, BE SEATED"



—Satterfield, for the Newspaper Enterprise Association

resume.

The House passed a bill repealing war legislation, including the Lever Food and Fuel Act.

It is not anticipated that the Volstead bill on blue sky legislation will be considered at this session, largely because of the shortness of the session and the committee's inability to draft a satisfactory measure.

The following is a resume of the more

consumers and from dealers selling directly to consumers shall take precedence over all other orders. No coal shall be sold for shipment out of the country until, in the judgment of the Interstate Commerce Commission, the needs of domestic consumers and retail dealers have been supplied or cared for."

H. Res. 612. (*Monopolistic control of coal.*) Introduced by Mr. Lampert; referred to the Committee on Interstate and Foreign Commerce. This bill directs the Federal Trade Commission to make a survey of all coal-bearing lands in the United States and its possessions, to ascertain the present value of all coal lands and coal mines, including machinery and other equipment used in mining, and to report to the House of Representatives at as early a date as practicable, and not later than December 1, 1921, and it provides further that there shall be appropriated a sum not exceeding \$50,000 for that purpose.

STRIKES

S. 4204. Introduced by Mr. Poindexter on April 12, 1920; referred to the Committee on Interstate Commerce, from which committee it was reported. This bill passed the Senate on December 16. There were, however, only a few senators present. The bill has previously been reviewed in the MINING CONGRESS JOURNAL. It provides a fine of \$10,000 or imprisonment not exceeding ten years, or both, for whoever shall interfere with the movement of commodities in commerce with foreign nations or among the several states, by word of mouth or by circulation of written words, or who shall otherwise attempt to induce or persuade any person employed by any carrier under the act to regulate commerce or amendments thereto to quit such employment. Section 2 provides a fine of \$15,000 or imprisonment not exceeding fifteen years, or both, for whoever shall interfere with the movement of commodities by force or violence, or by threat or menace of any kind prevent or seek to prevent persons from engaging in employment or from continuing in employment in any capacity in the production or operation of any means or agency to carry on interstate commerce. Section 3 provides a fine of not exceeding \$10,000 or imprisonment not exceeding ten years, or both, for whoever shall interfere with the movement of commerce by injuring or destroying any car, bridge, track, ship, etc., or shall persuade others so to do. Section 4 provides that it is unlawful for two or more persons, being officers, directors, managers, agents, attorneys, or employees of any carriers subject to the act to regulate commerce for the purpose of maintaining, adjusting, or settling any dispute, demand, or controversy which, under the provisions of this act, can be submitted for decision to the Committee of Wages and Working Conditions or to a regional board of adjustment, to enter into any combination or agreement with intent substantially to hinder, restrain, or prevent the operation of trains or other facilities of transportation for the movement of commodities or persons in interstate commerce. Upon conviction such persons shall be punished by a fine not exceeding \$500 or by imprisonment not exceeding six months, or both.

GOVERNMENT DEPARTMENTS

H. R. 14757. (*Creating a Department of Conservation.*) Introduced by Mr. McDuffie; referred to the Committee on Agriculture. The bill provides for an executive department of the government to be called the Department of Conservation, with a secretary who shall receive a salary of \$12,000 per annum, an assistant secretary at \$8,000 per year and such other assistants as is necessary. It transfers the Forest Service and the Bureau of Biological Survey from the Department of Agriculture to the proposed new department, the Geological Survey and the National Park Service from the Interior Department and the Bureau of Fisheries from the Department of Commerce. Under this new department shall be created a bureau to be called the Bureau of Birds and Game. The secretary of conservation must collect, collate, and report at least once a year full and complete statistics relating to the natural resources of the United States. He shall have the power to adopt such course as in his judgment may result in the conservation of the natural resources of the United States or any part thereof whenever an emergency arises and to take such action as may seem to him to be wise and in the interest of the people of the country; and shall be vested with the exclusive power of making leases with private individuals or corporations, or of issuing permits, to make use of any timber, water power, water, or minerals or any other natural resources on or in any of the national parks, etc.

DEPARTMENTAL REORGANIZATION

S. J. Res. 220. (*Creating a joint commission for the reorganization of the executive departments.*) Introduced by Mr. King; referred to the Committee on Appropriations. The bill provides that a joint commission of Congress, to be designated the "Joint Commission on Reorganization," shall be created. The commission shall be composed of three senators and three representatives, whose duty it shall be to make a visitation, examination, and investigation of the executive departments and agencies of the government, to ascertain their several powers, functions, and duties as prescribed by law and as actually rendered and performed, to discover conflicts or repetition of work and to recommend such re-allocation of such work, functions, and powers to the several departments and agencies as shall bring the whole of the same into such order and correlation as shall secure the most facile and effective administration.

S. 4613. (*Bureau of Veteran Re-establishment.*) Introduced by Mr. Capper; referred to the Committee on Finance. The bill creates in the Department of the Interior a bureau to be known as the Bureau of Veteran Re-establishment, with a director at a salary of \$10,000 per year. The functions and duties conferred upon the Bureau of War Risk are transferred to the proposed bureau as is also the act to provide for vocational rehabilitation. The functions of the United States Public Health Service are also transferred. All sums heretofore appropriated for the purpose of carrying out the provisions of the War Risk Insurance Act, etc., are transferred to the proposed new department.

MINING LAWS

S. 4571. (*Amending United States mining laws.*) Introduced by Mr. Chamberlain; referred to the Committee on Mines and Mining. The bill provides that in order to obtain title to mineral lands of the United States it shall be necessary to proceed in the following manner: If the entry be placer in character and no record thereof has theretofore been made, there must be filed in the local land office for the district in which such mineral land is situated an application for entry, which application shall consist of an affidavit upon a form to be approved by the Secretary of the Interior. If a record has been made of the entry in the office of the county clerk, a certified copy of the original notice of location, together with the affidavit of the applicant that the claim is valid and that all assessment work now required has been performed, is all that is necessary. Application for quartz entry shall be made in the same manner as that required for placer entries except if the entry does not conform to legal subdivisions of surveyed land, or cannot be made to conform on unsurveyed land, then the applicant must, before filing application for entry, erect, or cause to be erected, such monuments as shall plainly mark the boundaries of his claim. Upon the filing in a local land office of an application for mineral entry or of a certified copy of original notice of location, the register shall immediately assign the same the current serial number and proper notations shall be made upon the serial register. Final proof may be made on a mineral entry in substantially the same manner as now required by law of a homestead entryman. The same proof of labor or assessment work as is now required by law shall be executed each year by a mineral claimant. The time in which final proof may be made on any mineral entry is limited to five years from date of allowance by register of the local land office, except upon application of the entryman, accompanied by such proof or data as the Secretary of the Interior may require. The Secretary of the Interior shall extend the time for final proof, not to exceed five years additional from date of entry, or final proof may be made at any time during the five-year period upon satisfactory proof to said examiner and register that the sum of \$500 has been expended upon each entry upon which proof is offered that mineral in paying quantities has been discovered. A mineral entry may be relinquished in manner now provided by law for relinquishment of an agricultural entry or may be cancelled by the Commissioner of the General Land Office after due notice to the entryman, as now provided by law for the cancellation of desert-land entries. All applications, affidavits, and proofs required shall be executed before an officer qualified to act in homestead cases, except that yearly proofs of labor or assessment work may be executed before any officer having a seal. Registers and receivers of local land offices are to receive a fee of \$5 for filing and acting upon each application and \$1 for filing and noting each yearly proof of labor or assessment work.

TARIFF

H. R. 14463. (*Asbestos.*) Introduced by Mr. Watson; referred to the Committee on Ways and Means. The bill provides that asbestos unmanufactured, crude,

fiber, stucco, sand, or refuse containing not more than 15 per cent of foreign matter shall be exempt from duty. Upon asbestos paper and millboard and articles manufactured therefrom there is a duty of 5 cents per pound; asbestos paper and millboard manufactured from long fiber asbestos for gaskets, electrical papers not exceeding five one-thousandths of an inch in thickness, or articles manufactured therefrom, 10 cents per pound. A duty of $1\frac{1}{2}$ cents per square foot and 3 cents per square foot if exceeding $\frac{1}{4}$ of an inch in thickness is imposed on articles composed of asbestos and cement, containing not more than 33.3 per cent of asbestos and not exceeding $\frac{1}{4}$ of an inch in thickness; asbestos twine and rope, or articles manufactured therefrom, 35 cents per pound; asbestos woven sheet packing, exceeding one-thirty-second and not exceeding one-eighth of an inch in thickness, 50 cents per pound; asbestos gaskets folded or cut from the straight sheet, rubberized, graphited, or otherwise treated with waterproofing or lubricating compound, 65 cents per pound; asbestos yarn containing more than 10 per cent of foreign matter, 50 cents per pound.

AMENDING CONSTITUTION

H. J. Res. 391. (Amending the Constitution.) Introduced by Mr. Hull; referred to the Committee on Judiciary. The bill provides that the House of Representatives of the United States shall be composed of not more than four hundred and fifty members, not including delegates or resident commissioners; and that when a state is admitted into the Union the representation to which it shall be entitled until the next succeeding apportionment shall be in addition to the limit herein fixed.

H. J. Res. 385. Introduced by Mr. Ayres; referred to the Committee on Judiciary. The bill provides that the President shall have power, by and with the advice and consent of the Senate, to make treaties provided a majority of the senators present concur.

ANNUAL ASSESSMENT

S. 4564. (Amending the revised statutes.) Introduced by Mr. Henderson; referred to the Committee on Mines and Mining. The bill provides that Section 2324 of the Revised Statutes be amended to provide that the period within which work required to be done annually on all unpatented mineral claims shall commence on the first day of January succeeding the date of location of such claims and that the period within which work is required to be done annually on all other unpatented mineral claims in the United States and Alaska shall henceforth commence on the first day of July of each year. Also provided that the period for performing the work required by section 2324 of the Revised Statutes, as extended to the Territory of Alaska, and by this act beginning the first day of January, 1920, which, but for this act would expire the thirty-first day of December, 1920, is extended to and including the thirtieth day of June, 1921.

S. 4555. Introduced by Mr. Smoot; referred to the Committee on Mines and Mining. This bill is identical with the bill just above reviewed.

Bills were introduced by Senators Henderson and Smith and Representatives Hayden, Evans of Nevada, and Taylor of Colorado. The bill introduced by Mr. Taylor of Colorado has met with the general endorsement of those interested, in that it provides that the time required for annual assessment work be extended to July 1, 1921. All bills introduced are substantially the same.

REVENUE

S. 4538. (Amending Revenue Act.) Introduced by Mr. Gay; referred to the Committee on Finance. The bill provides that subdivision (a) of section 250 of the Revenue Act be amended to provide that the fourth and last installment of taxes, which but for this amendment, would be payable in cases where return was made on the basis of the calendar year, on December 15, 1920, shall be payable in five installments, each consisting of one-fifth of the total amount of such fourth and last installment. The first of such five installments shall be payable on the fifteenth day of December, 1920, and the remaining four-fifths in equal amounts on the fifteenth day, respectively, of the four months next succeeding.

H. R. 14761. (Amending Revenue Act.) Introduced by Mr. Burroughs; referred to the Committee on Ways and Means. The bill amends Section 204 of the act by providing that if for any taxable year beginning after October 31, 1918, it appears upon the production of evidence satisfactory to the commissioner that any taxpayer has sustained a net loss, the amount of such net loss shall be deducted from the net income of the taxpayer for the preceding taxable year; and the taxes imposed by this title and by Title III for such preceding taxable year shall be redetermined accordingly. Any amount found to be due to the taxpayer upon the basis of such redetermination shall be credited or refunded to the taxpayer in accordance with the provisions of Section 252. If such net loss is in excess of the net income for such preceding taxable year, the amount of such excess shall, under regulations prescribed by the commissioner with the approval of the secretary, be allowed as a deduction in computing the net income for the succeeding taxable year. Section II provides that Section 214 (a) (12) shall be so amended as to provide that at the time of filing return for any taxable year a taxpayer may file a claim in abatement based on the fact that he has sustained a substantial loss resulting from any material reduction of the value of the inventory for such taxable year, or from the actual payment after the close of such taxable year, of rebates in pursuance of contracts entered into during such year upon sales made during such year. Section 234 (a) (14) is amended to provide that at the time of filing return for any taxable year a taxpayer may file a claim in abatement based on the fact that he has sustained a substantial loss. In such case payment of the amount of the tax covered by such claim shall not be required until the claim is decided, but the taxpayer shall accompany his claim with a bond in double the amount of the tax covered by the claim with sureties satisfactory to the commissioner, conditioned for the payment of any part of such tax found to be due, with such interest. If any part of such claim

is disallowed, then the remainder of the tax due shall, on notice and demand by the collector, be paid by the taxpayer with interest at the rate of one per cent per month from the time the tax would have been due had no such claim been filed. If no such claim is filed, but it is shown to the satisfaction of the commissioner that during the taxable year next following the filing of such return the taxpayer has sustained a substantial loss of the character above described, then the amount of such loss shall be deducted from the net income for the taxable year covered by such return and the tax imposed by this title for such year shall be redetermined accordingly. Any amount found to be due to the taxpayer upon the basis of such redetermination shall be credited or refunded to the taxpayer, in accordance with the provisions of Section 252.

H. R. 14956. (General sales tax.) Introduced by Mr. Mott; referred to the Committee on Ways and Means. The bill provides that in lieu of the war profits and excess-profits tax imposed by Title III; and of the tax on non-alcoholic beverages; the tax on admissions; excise taxes, but in addition to all other taxes, there shall be levied, assessed, collected, and paid upon (1) tangible property; (2) patents, trade-marks, copyrights, good will, franchise, and options; (3) bonds, debentures, certificates of indebtedness, and other instruments, however termed, issued by any corporation, with interest coupons or in registered form, known generally as corporate securities; (4) shares of certificates of stock or of profits, or of interest in property or accumulations, in any corporation, or rights to subscribe for or to receive such shares or certificates; and (5) light, heat, and power, sold, bartered, or exchanged (except on the installment plan), a tax equivalent to 1 per cent of the price for which so sold. Section 3 provides that there shall be levied, assessed, collected, and paid in addition to all other taxes save those specifically repealed by this act a tax equivalent to one per cent of the amount received for the enjoyment or use of property, privileges, rights, services, or facilities; from the loaning of money or the discounting of commercial or other paper by any person carrying on such business, but not including the return of the principal; and from the sale, or contract of sale, made under the installment plan, of any of the property specified in Section 2. The tax imposed applies in the case of contracts, discounts, or sales, whether made before or after the passage of this act; but shall not apply to amounts received for personal services rendered by the individual taxpayer, transportation of property by rail or water, or by any form of mechanical motor power when in competition with carriers by rail or water, (3) transportation of oil by pipe line, transportation of persons by rail or water, or by any form of mechanical motor power on a regularly established line when in competition with carriers by rail or water, transmission of intelligence by wire or wireless, of use of seats, berths, or state-rooms in parlor cars, sleeping cars, or on vessels. The taxes imposed by Sections 2 and 3 are to be computed on the gross amounts received, excepting in the case of real estate brokers, rent collectors, etc., engaged in the sale, barter, exchange, or lease of property, real or personal, tangible or intangible, but in which they

have no legal title, or take title solely to enable them to sell as brokers, and act wholly as agents; or engaged in the collection of money for the use or enjoyment of property, rights, privileges, services, or facilities, in which they act as agents for the owners and have no title in themselves, in both of which cases the tax imposed shall be one per cent of the commission and not of the gross amount received from such sale or lease. This act does not apply to sales made or amounts received during any month in which the sum of the price for which taxable sales are made, plus the taxable amounts received, do not exceed \$200. The United States, foreign governments, any state or territory or political subdivision thereof or the District of Columbia, any mutual ditch or irrigation company, any hospital or any corporation organized and operated exclusively for religious, charitable, scientific, or educational purposes, or for the prevention of cruelty to children or animals, no part of the net earnings of which inures to the benefit of any private stockholder or individual, are exempt from the taxes imposed by the act. Section 7 of the bill provides that in computing the taxes imposed by the act no credit shall be allowed for any tax reimbursed or paid in any manner or to any person, in connection with any previous transaction in respect to which a tax is imposed by law. A fine of \$1,000 or imprisonment for one year or both will be imposed for violation of the act. The act shall go into effect three months from the first day of the month next following its passage.

H. J. Res. 415. (Extending time for payment of taxes.) Introduced by Mr. Edmonds; referred to the Committee on Ways and Means. The bill provides that all penalties for non-payment of tax, excepting interest, enforceable under the act entitled "An Act to provide revenue, and for other purposes," approved February 24, 1919, and due on December 15, 1920, shall be suspended for a period of fifty days and shall be enforceable on February 15, 1921.

FEDERAL RESERVE ACT

H. R. 14904. (Amending Federal Reserve Act.) Introduced by Mr. Young; referred to the Committee on Banking and Currency. Section 7 of the Federal Reserve Act is amended to provide that the net earnings derived by the United States from Federal Reserve banks shall, in the discretion of the secretary, be used to supplement the gold reserve held against outstanding United States notes, or shall be applied to the reduction of the outstanding bonded indebtedness of the United States under regulations to be prescribed by the Secretary of the Treasury, provided, however, that the Secretary of the Treasury, in his discretion, may deposit each year during the years 1921 and 1922 not to exceed in the aggregate \$50,000,000 of the net earnings which shall be derived by the United States from the federal reserve banks for each of the years 1920 and 1921 in the federal land banks at rates of interest equal to those of current rates on treasury certificates, to be used by said banks in rediscounting cattle loan paper and notes secured by live stock with the indorsement of responsible banks, the loans not to exceed in any instance two years, and to be made under such rules and regulations

as the Federal Farm Loan Board shall prescribe.

H. R. 14903. (Amending Section 10.) Introduced by Mr. McFadden; referred to the Committee on Banking and Currency. The bill amends Section 10 of the Federal Reserve Act by providing that the Federal Reserve Board shall consist of seven members, each of whom shall receive a salary of \$12,000 per year. This board shall have power to do all things now done by the bureau or the comptroller of the currency. It completely removes the Federal Reserve Board from the jurisdiction of the Treasury Department, abolishes the office of the comptroller of currency and authorizes the Federal Reserve Board to perform all duties heretofore performed by the comptroller of currency or the bureau of which he is the chief officer.

S. 4575. (Amending Federal Farm Loan Act.) Introduced by Mr. Hitchcock; referred to the Committee on Banking and Currency. This amendment to the above-mentioned bill provides that the Secretary of the Treasury in his discretion may use not to exceed \$60,000,000 of the net earnings which shall be derived by the United States from the operation of the federal reserve banks in any one year to purchase debentures or other similar obligations issued by the federal land banks. On and after the date on which the act shall become effective the federal land banks are authorized to issue and sell to the Secretary of the Treasury and other purchasers debentures or other similar obligations bearing interest not to exceed six per cent, the proceeds of which shall be used to make loans as provided by the original act. Any federal land bank may at any time repurchase at par and accrued interest for the purpose of redemption any debentures so purchased by it and held in the treasury.

S. J. Res. 222. Introduced by Mr. Sterling; referred to the Committee on Banking and Currency. This will provide that the Secretary of the Treasury may use \$100,000,000 of the net earnings derived from the federal reserve banking system for the purpose of allotment to the several federal land banks, approved by the Federal Farm Loan Board for use in the purchase of paper based on staple agricultural products or live stock. No loan, under the act, shall be for a longer period than nine months if based on agricultural products or longer than two years if based on live stock. Loans shall bear interest at the rate of six per cent if the loan be for a period of six months or less; or if for a longer period than six months, payable semi-annually in advance, but any borrower may be charged for the expenses incident to his loan a sum to be approved by the Federal Farm Loan Board, not exceeding an amount equal to two per cent per annum for the period of the loan.

S. 4560. Introduced by Mr. Harris; referred to the Committee on Banking and Currency. The bill provides that upon its passage the rate of interest which the reserve banks of the Federal Reserve Board system is authorized to charge member banks on any contract, agreement, or any other financial transaction had with them shall be five per cent per an-

num and that it shall be unlawful for them to charge any greater rate of interest.

H. R. 14464. (Amending Farm Loan Act.) Introduced by Mr. McLaughlin; referred to the Committee on Banking and Currency. The bill amends the original Farm Loan Act by providing that the amount of loans to any one borrower shall in no case exceed a maximum of \$10,000, nor less than \$100; that where the loan is desired for the purchase of land for agricultural purposes, a loan to any one borrower may, in the discretion of the Federal Farm Loan Board, be made in any sum not to exceed \$25,000.

INTERSTATE COMMERCE

H. R. 14901. (Amending Interstate Commerce Act.) Introduced by Mr. Esch; referred to the Committee on Interstate and Foreign Commerce. The bill repeals Section 10 of the act to supplement existing laws against unlawful restraints and monopolies and amends Section 20a by providing that after December 31, 1921, no common carrier engaged in commerce shall have any dealings in commerce or shall make any contracts for construction or maintenance of any kind, to the amount of more than \$50,000 in any one transaction with another corporation, firm, partnership, or association when the common carrier shall have upon its board of directors, or as its present or general manager or selling officer any person who is at the same time a director, president, or general manager of the bidding firm. No bids shall be considered unless the names and addresses of the officers, directors, etc., be given in the bid. If any common carrier violates the provisions of the act, it shall be fined not exceeding \$25,000 and every officer thereof who shall vote for or direct the act knowing that it constitutes such violation shall be fined \$5,000 or confined in jail not exceeding one year, or both.

S. 4524 Introduced by Mr. Pittman; referred to the Committee on Interstate Commerce. This bill amends Section 4 of the Interstate Commerce Act by providing that it shall be unlawful for any common carrier to charge or receive any greater compensation in the aggregate for the transportation of passengers, or of like kind of property, for a shorter than for a longer distance over the same line or route in the same direction. Wherever a carrier by railroad shall in competition with a water route or routes reduce the rates on the carriage of any species of freight to or from competitive points it shall not be permitted to increase such rates unless after hearing by the commission it shall be found that such proposed increase rests upon changed conditions other than the elimination of water competition.

S. 4576. Introduced by Mr. Frelinghuysen; referred to the Committee on Interstate Commerce. This bill is identical with the bill reviewed above presented by Mr. Esch.

FOREST EXPERIMENT STATION

H. R. 14477. Introduced by Mr. Timberlake; referred to the Committee on Appropriations. The bill appropriates the sum of \$30,000 to be available during the

fiscal year ending June 30, 1922, to enable the Secretary of Agriculture to maintain the forest experiment station in the state of Colorado for the purpose of conducting in Colorado and neighboring states silvicultural, dendrological and other experiments and investigations, independently or in co-operation with other branches of the federal government.

IMMIGRATION

H. R. 14461. Introduced by Mr. Johnson of Washington; referred to the Committee on Immigration, from which committee it was reported to the House of Representatives and passed by that body on December 13th, 1920. The bill provides for the temporary suspension of immigrants. Section 2 provides that from sixty days after the passage of the act until the expiration of fourteen months after its passage immigration of aliens to the United States is prohibited, during which time it shall not be lawful for any alien to enter the United States or to remain within the United States. The following exceptions are provided in the bill: government officials, their families, attendants, servants, and employees; travelers or temporary sojourners for pleasure or business who may enter the United States during the time of suspension of immigration for a period not exceeding six months each; bona fide students who may enter the United States solely for the purpose of study; ministers of any religious denomination; and aliens belonging to either of the classes previously mentioned shall be permitted to enter the United States only upon presentation of a valid passport satisfactorily establishing his identity, nationality and the class to which he belongs. Proper safeguards are made surrounding the passports and numerous regulations are provided which immigrants must adhere to. Copies of this bill will be furnished to interested parties upon request.

S. 4627. (Limiting immigration.) Introduced by Mr. Dillingham; referred to the Committee on Immigration. The bill provides for a joint committee of the Secretaries of State and Labor to prepare a statement showing the number of persons of the various nationalities now residents in the United States, as determined by the census next preceding, which statement is to be the population basis for the purposes of the act, but if by reason of changed political boundaries in foreign countries occurring between United States census periods such population basis shall not be applicable then the above-mentioned officials shall estimate the number of persons of the nationalities concerned, which estimate shall be the population basis. When the maximum number of aliens of any nationality who may be admitted in any fiscal year under the act shall have been admitted, all others shall be excluded. Proper reservations are made for relatives of immigrants already here.

WAR FINANCE BOARD

House Concurrent Res. 67. (War Finance Corporation.) Introduced by Mr. Steagall; referred to the Committee on Banking and Currency. This resolution provides that the Secretary of the Treasury, members of the War Finance Corporation,

and its officers are empowered and directed to resume activities of the War Finance Corporation and to assist in conducting and financing the exportation of goods, commodities, and products of American farms, mines, and manufactures in accordance with the purposes and provisions of the act creating the War Finance Corporation and amendments thereto, and that the Federal Reserve Board is directed to take such action as may be necessary to permit member banks of the Federal Reserve System to grant liberal extensions of credit to farmers, merchants, and manufacturers upon products and securities held by them.

DISARMAMENT

S. J. Res. 225. Introduced by Mr. Borah; referred to the Committee on Foreign Relations. Providing that the President of the United States is requested to advise the governments of Great Britain and Japan that this government will at once take up directly with their governments and without waiting upon the action of any other nation the question of disarmament, with a view to reducing the navies of the United States, Great Britain and Japan during the next five years fifty per cent of the present estimate of figures.

COLLECTIVE MARKETING

H. R. 14896. (General system for co-operative marketing.) Introduced by Mr. Sinclair; referred to the Committee on Agriculture. The bill appoints a commission to consist of three members, each having special knowledge in the co-operative handling and marketing of grain cereal products and horticultural products. The commission shall devise a plan of local organization of producers to provide a system for terminal marketing places with a view to bringing the producer and the ultimate consumer into as nearly direct relation and communication as possible; all of these agencies are to be under the direct supervision of the United States government through the Secretary of Agriculture. The bill provides the sum of \$30,000 for the payment of salaries, etc.

DEPARTMENT OF LABOR

S. 4527. (Amending act creating Department of Labor and Department of Commerce.) Introduced by Mr. King; referred to the Committee on Judiciary. The bill provides that there shall be provided an Assistant Secretary of Labor and an Assistant Secretary of Commerce, which appointment shall be filled by the President, by and with the advice and consent of the Senate.

WATER POWER

S. 4554. (Amending Federal Power Commission Act.) Introduced by Mr. Jones of Washington; referred to the Committee on Commerce. The bill provides that hereafter no license, lease, or authorization for dams, conduits, reservoirs, power houses, transmission lines, or other works for storage or carriage of water, or for the development, transmission, or utilization of power, within the limits of any national park or national monument shall be granted or made without specific authority of Congress, and so

much of the Act of Congress approved June 10, 1920, entitled "An Act to create a Federal Power Commission; to provide for the improvement of navigation; the development of water power; the use of the public lands in relation thereto; and to repeal Section 18 of the River and Harbor Appropriation Act, approved August 8, 1917, and for other purposes," approved June 10, 1920, as authorizes licensing such uses of national parks and national monuments by the Federal Power Commission is hereby repealed.

BOLSHEVISM

H. R. 14658. Introduced by Mr. Emerson; referred to the Committee on Post Offices and Post Roads. The bill provides that any person found guilty of sending any publication or printed matter through the mails that contains any statement or article the obvious purpose of which is to stir up radical or religious hatred shall be fined not to exceed \$5,000, or imprisoned for five years, or both.

GYPSUM DEPOSITS

Gypsum deposits in the United States are described in a bulletin just issued by the Geological Survey. Gypsum is the rock used for making plaster of paris and hard wall plaster, and is also an ingredient of Portland cement. It likewise is used as a fertilizer. The bulletin shows that gypsum is distributed from New York to California and from Michigan to Texas. The deposits in some states are so small that they may be worked out in a few years; those in other states, like Wyoming and New Mexico, consist of thick beds that crop out at the surface for hundreds of miles and that are seemingly inexhaustible.

THE UNITED STATES WEARING AWAY.—An average of 95 tons of soil, pebbles, and loose rock is carried by the rivers into the ocean every year from every square mile of the United States, according to the United States Geological Survey, Department of the Interior. The immensity of this contribution may be better comprehended when it is realized that the surface of the United States covers 3,088,500 square miles.

Immense Coal Reserve.—The Bull Mountain coal field, in Musselshell county, Mont., according to an estimate made by the United States Geological Survey, contains nearly five billion tons of coal. A small part of this immense reserve of coal has already been mined, but by comparison with the total in the ground, the quantity mined is practically negligible.

Oil in By-Product Sands.—From data collected by the United States Geological Survey, it is estimated that 2,359,000 barrels of oil, valued at more than \$3,500,000, could be obtained from the sand piles about producing wells in California and from outcroppings in the vicinity of the fields. Also, it is claimed, many times that amount of oil might be recovered from seepage over the oil-producing area. By seepage, in this case, is meant oil which is permitted to return into the ground or remain on the surface of oil-saturated sand.



The Government in Industry

LARGE GOVERNMENT EXPENDITURES have been opposed by no one more consistently than by SENATOR CHARLES S. THOMAS of Colorado, who is unalterably against "parental government." In discussing the proposed bill for the amendment to the Federal Reserve Act, in regard to financing the farmers, Senator Thomas said:

"I am willing to do all reasonable things for the benefit of the farmer and since I have been a member of the Senate there has been about as much class legislation, perhaps, as has been enacted in any similar previous period of time. The government is not organized as a universal hospital to cure the commercial and economic accidents and diseases of all mankind. It was created to protect the citizen and enable him to function on his own account; and I think that the most pernicious consequence of this kind of legislation is the fact that it is depriving the people of the country of that element of self-reliance, personal ambition and the desire to succeed which lies at the foundation of all individual and national prosperity. Why should I exert myself unduly in order to succeed, if, when I fail, the government is to catch me. That is our modern idea, so far as our practice goes, of government; and, as a consequence, we have one hundred and twenty-five lobbies, all with their hands and their tongues out, and both stretched in the direction of the United States treasury.

"I was called into the lobby a short time ago by some gentlemen who are here who want some money for good roads. They said they certainly expected that I would assist them to the best of my ability. I told them I would. I informed them that up to this time I had unsuccessfully opposed every such measure, and by opposing theirs I would guarantee its passage. I also told them that inasmuch as we only had a little deficiency of a billion and a quarter staring us in the face, and a demand for two and a half billions for a bonus, and a bill practically appropriating five hundred millions now before the Senate, if there was anything left I thought they ought to have it for good roads; hence they would receive it unless the bottom of the treasury should be

reached, in which event they ought to apply and perhaps would be treated as preferred creditors."

SENATE DISCUSSION on the bill legalizing associations of farmers brought forth the following from SENATOR KELLOGG of Minnesota:

"I do not believe that the government should go into business and compete in the interest of the people with private enterprise. I believe that private enterprise must operate the industries of this country, that there must be the individual hope of gain and of betterment of condition and the enterprise incident to the splendid American spirit in order to make them successful. Either we are going to allow industry to organize and have good and stable market conditions or we will have state socialism.

"I am not in favor of permitting the unlimited organization of monopolies to throttle the American people, but I am in favor of permitting reasonable co-ordination and co-operation. I do not think there is any great danger to the people in this plan. I do not pretend that it does not make some changes in the Sherman Anti-Trust Act. I do not consider that a holy document that can not be touched when the business conditions of the country demand it. I am in favor of preserving its principles for the protection of the American people, but I am also in favor of modifying it, when it is necessary for the real benefit of the American people and the development of trade and markets."

WITH PESSIMISM RUNNING RIOT, it is encouraging to have such men as W. P. G. HARDING, governor of the Federal Reserve Board, give such assurance to industry as was carried in his article in the December issue of *System*:

"You can liken the business and financial world to a crowd in the theater. When the show is going along smoothly every one is happy, but let somebody yell 'fire' and in an instant a part of the audience is a surging mob trying to get out of the doors. It is quite the same in business. The danger of another financial panic in this country is so small as to be negligible. A depression in business must not be confused with a panic. When people feel prosperous they begin to buy and then prices and wages go up, plants

are attended until we find that many business men are trying to do more than their capital will warrant. No one pays much attention to costs, for profits become very large and this still further stimulates extravagant buying and consequently speculation. People always speculate when prices are rising. Since the armistice, for instance, literally tons of worthless securities have been sold to small buyers who are lured into believing that any kind of enterprise will be successful. The moment the mass of the people begins to worry about high prices, the temper of business starts to change. The depressed period does not commonly extend through a very long time.

"One has to be knocked down every little while in order to learn how to fight."

"Under present conditions no emergency demand for money will more than inconvenience a well-managed bank, for the facilities are at hand to turn enough liquid assets into cash and without loss to meet the demands.

"The Federal Reserve System has not only provided but also has marked the exits, so the people need not fear that their way out may be blocked."

Tariff Measures

THE PROTECTIVE TARIFF question is not essentially a Republican issue. This country is gradually recognizing the fact that many of our industries in order to survive must be protected with a tariff which will enable them to compete with the cheap labor of foreign countries. SENATOR MILES POINDEXTER, in discussing this subject, said:

"The most active agitation in behalf of restoration of protective tariff duties comes from a section of the country which has hitherto been most strongly opposed to the principle of protection. The peanut, cottonseed oil, mohair, and wool producers of the southwest are vehement in their demand for protection of their industries from the destructive competition of foreign producers.

"A compilation of the statistics of the seven years under Republican tariff laws shows that there were imports of almost \$10,500,000,000 on which duties were collected to the amount of \$2,200,000,000, or an average rate of twenty-one per cent,

while during seven years of the succeeding Democratic tariff law there were imports of \$19,705,000,000, on which duties were collected to the amount of only \$1,631,000,000, or an average of eight per cent. The treasury has lost nearly \$4,000,000 in revenue at a time when revenue was one of our greatest needs. Producers of all commodities that come into competition with the products of other nations where labor is cheap and standards of living low are vitally concerned with the restoration of an import duty which shall represent at least the difference in cost of production at home and abroad."

WITH THE ASSURANCE which the Congress coming in on March 4 brings to the country of a revision of our tariff laws, much of interest is appearing in our newspapers concerning the subject. The *American Metal Market* says the following editorially:

"A good test of a man's broad-mindedness, if not, indeed, of his intelligence, is his attitude on the tariff in the new circumstances produced by the war. The stock arguments before the war, pro and con, are out of date. There was, for instance, the dictum that the south needed free trade for the benefit of its cotton industry. Now the south wants a tariff on peanuts and tobacco and is willing to swallow the whole protective tariff principle in order to get what it wants.

"Then there is the 'infant industry' idea. Finally, the basis of much of the protectionist argument of the old days, that of high wages being produced, fits poorly with the preachings of today that we are ruined by high wages.

"Nevertheless the matter of tariff is a more live and important issue than ever before. Instead of needing just enough tariff to get along with, as before the war, we now need all the tariff we can risk putting on.

"The needs of the tariff now run chiefly along four lines:

- "(1) To protect industries.
- "(2) To produce revenue.
- "(3) To encourage exports.
- "(4) To further the restoration of exchange rates.

"As to protection, there must be wise discrimination. It would be idle to argue otherwise, else why not simply enact a blanket 25 per cent or 50 per cent ad valorem rate? That would protect our industries, like the Republicans used to want, and at the same time put a stiff duty on the things we do not produce, which was precisely what the Democrats used to clamor for. Everybody would be satisfied. In respect to the protective feature, the tariff should be set for each commodity we manufacture in accordance with the class of competition to which our producers are exposed. For illustration, there should be a higher tariff on products of Chinese labor than on products of French labor.

"As to revenue, one who has, unconsciously perhaps, judged the importance of the tariff by the amount of talk about it rather than by the results, should take a moment to consider actual revenue figures. For a whole century our tariff revenue has totaled less than fifteen billion dollars. The best fiscal year, 1910, showed a third of a billion. These revenues are very small compared with our requirements. The revenue from the 1913 tariff

has been particularly poor, but the up-to-date comparison is that the first three months of the present fiscal year showed a revenue rate a shade in excess of the record year, 1910.

"The third point, the encouragement of exports, require no argument. Everyone agrees that we want a large export trade.

"In normal times for exchange there is always need for equalization, and that equalization is effected by gold movement. A very small divergence produces a gold movement, and buyers and sellers of commodities do not feel a ripple. Now they have violent fluctuations from day to day because the equalization against changing conditions is a cumbersome process. It is merely for stability that we want foreign exchange at par, for only at par with all countries involved on a gold basis, can exchange take care of itself. A stabilization could be arranged through artificial control, but no one is disposed to undertake the job.

"Thus in the formulation of the tariff the particular exchange rates existing do not need to be taken into account. If exchange on a given country is at one-half normal or double normal prices and wage rates in that country as compared with those in the United States are presumably in keeping with the exchange rate that the play of commercial transactions has brought about. For furthering our foreign trade it is stabilization, not a mere return to an average of normal, that is requisite. Broadly speaking, it would be as bad for commerce for an exchange rate to fluctuate violently above and below par as for it to fluctuate violently above and below one-third of par."

Labor, Immigration and the Open Shop

AMERICAN LABOR is the most favored of any in the world. In spite of protestations to the contrary, this fact is universally admitted. Upon this subject the *Washington Post* has the following to say:

"Any legislation intended to safeguard the interests of the United States should include provisions safeguarding American labor. It is proper and necessary that Congress should discriminate in favor of American labor as against all other workers, notwithstanding foreign attempts to 'internationalize' labor. American labor is so much better paid, and has so many superior opportunities, that it cannot afford to pool its interests with foreign labor. The advantages enjoyed by American labor must be safeguarded by legislation whenever necessary. Otherwise the phrase 'America first' would be meaningless as applied to the workers.

"It is literally true, as President-elect Harding has said, that 'the big thing for all America to realize now and always is, the dignity of productive labor. No matter how humble, the producers are the makers of the essentials of civilization and we must each and all of us accept and discharge our duty of producing for the world, or of ministering to the needs or comforts or progress of mankind.' This is the goal toward which intelligent workers and thoughtful employers are headed, for orderly deflation can only come with

the cultivation of national thrift and a largely increased industrial output per unit of worker."

THE IMMIGRATION BILL which has been before the House and which was passed by it afforded an opportunity for the expression of opinion of our Congressmen in regard to this important subject. REPRESENTATIVE CAMPBELL of Kansas, on the floor of the House, said:

"In this period of reconstruction we shall not only have to limit immigration, but we shall have to limit by proper taxation the importation of a flood of the products of labor employed elsewhere in the world, in order to maintain our standards of living and our scale of wages in the United States. Just so surely as we open our gates or keep them open to the flood of immigration that is anxious to come to the United States, so surely will our standards of living, our scale of wages be reduced. We have today in this country the highest standard of living in the world and the highest scale of wages in the world. We have the best opportunities in the world. We have been able to serve the world and mankind because of the exceptional standards that we have established and have been able to do much for humanity that no other people could do. We must reconstruct for the welfare of the United States, and in doing so we must preserve everything that is here that is essential for the welfare and for the future of our own people."

MANY SOUND ARGUMENTS have been advanced, pro and con, among which is the following from the *New York Herald*:

"We need immigration, but we need most to discriminate as to the kind and character of immigration we will permit to come here. Right thinking, sound living, willing workers bring strength to the nation; wrong-thinking men—schemers and breeders of unrest—are a curse to the nation and should be denied admittance to this country of ours."

THE MINING CONGRESS JOURNAL has carried in this department much comment upon the question of the open shop. At its annual meeting in Boston, the NATIONAL GRANGE adopted the following resolution:

"The National Grange does hereby express its disapproval of any system which denies to any individual the right to work in any place where his industry is needed at any time and at any wage which is satisfactory to him or to quit his employment whenever and for whatever reason may be to him controlling, subject only to such contract obligation as he may willingly enter into and as may be enforceable in an American court of justice."

CONTRACT REPUDIATION by the labor elements has called forth much comment by the press of the country. The *New York Commercial* has the following to say editorially on "When a contract is not a contract":

"When an honorable business man gives his spoken word it is said to be as good as his bond. A business man's written word is his bond, and presumably it will remain good as long as he has a dollar in the world to back it up. The present deflation has revealed a condition of business conscience that is a sad reflection on the honor and integrity of American business men. Cancellations have been so numerous that it would seem as if a contract is a contract only as long as it shows a profit. When it shows a loss it is merely a scrap of paper.

"In law a contract can be cancelled only by the agreement of both parties or by one party if the other fails to live up to its terms. In many instances cancellations are being accepted by the second party because there is no alternative. It can easily be seen that business houses will suffer to a serious degree if these cancellations are allowed to stand. It will mean that honest buyers, who regard their given word as a sacred obligation, will suffer, while those who regard their obligations lightly will profit, which is a reversal of the theory that only the righteous should prosper.

"The man who takes advantage of a falling market to find fault with goods he would unquestionably accept on a rising market, or who just simply lies down on his contract, should have a black mark placed against him by all reputable business houses."

"Big Business" A Very Popular Target

THE U. S. STEEL CORPORATION is continually a target for those who are opposed to big business. In an interview appearing in the Magazine of Wall Street, ELBERT H. GARY, chairman of the Steel Corporation, said:

"I have no sympathy with the feeling of pessimism which seems to prevail to some extent among business men. This feeling is doubtless the result of the sharp fall of prices in several trades. Prices have in many cases been too high.

"Middlemen, especially, and the smaller manufacturers in some departments of business, have been too ready to pass on to the customer not only their additional costs, but also a large additional profit along with the costs.

"As an illustration of this, my attention was recently called to an article appearing in a well-known weekly publication in which the Steel Corporation was charged with advancing the price of nails from \$3.70 to \$12 per keg during the years 1917, 1918 and 1919, the inference being drawn that this advance was made to cover the estimated federal income taxes of \$559,743,270 for that period. As a matter of fact, the price of nails received by the corporation since 1914 has not exceeded \$3.50 per keg, and since March 21, 1919, after the steel committee of the American Iron & Steel Institute had reached an agreement with the Industrial Board and the Department of Commerce, the price has remained at \$3.25 per keg, although the corporation was under no

obligation to continue these prices after the whole matter was abandoned by the government. Quite likely in many cases the middlemen disposed of these nails at exorbitantly high prices, and it may have been in some cases as high as \$12 per keg. In fact, I have been informed that some middlemen after purchasing our nails at \$3.25 per keg, put them into stock at \$5 and \$5.50 per keg, the prices being charged by some of the independents, and then, upon disposing of them to their customers, adding the customary profit.

"Such conditions could not be permanent. Genuine and substantial prosperity must be fair and based on the law of supply and demand. Profits which are not legitimately based on that law are unjust and cannot last.

"The price reductions which have already taken place, are in most cases healthful and will add to our permanent prosperity. In some cases they may have gone too far but if so, there will be a natural rebound."

THIS SAME IDEA IS expressed in an entirely different manner by FRANCIS H. Sisson, vice-president of the Guaranty Trust Company, who says:

"Every man engaged in business recognizes that cost price and value are relative terms. The reward to be paid for given service can be fixed only by taking into consideration other factors. The value of a thing or a service is based upon its cost of production, and the price of it must take into consideration the cost, plus the labor. Ordinary common sense makes it clear that economic progress demands that it must be made profitable for labor to go on producing, profitable for capital to go on furnishing the supplies for labor to use, and profitable for intellect to supply the ideas about which all industry revolves. Business cannot go on at a loss, whether the business be that of an individual worker selling his labor or a manufacturer selling his product, or a farmer disposing of his produce. The moment profit disappears, industry in that particular line also disappears.

"The three partners in industry must work together with some understanding of each other's functions and duties."

MINE RESCUE AND FIRST AID WORK TO BE CONTINUED

Mine rescue and first aid training work will be continued, not to take the place of self-preparedness and self-help, but to promote the organization, encouragement and training of local men and companies to help themselves, Dr. F. G. Cottrell, director of the Bureau of Mines, recently announced. While the main mission of the bureau in this respect is to serve as a teacher and standardizer, that part of its work which deals with investigations of safe and dangerous practices, development, use and approval of underground explosives, ventilation, mechanical and electrical appliances and health and working conditions, Dr. Cottrell said, must grow in proportion to the growth of the industry and the use of more complicated machinery and appliances.

SUSPENSION OF ASSESSMENT WORK FAVORED BY PAYNE

Representative Marion E. Rhodes of Missouri, chairman of the House Committee on Mines and Mining, in reporting to the House the bill to suspend for 1920 the laws requiring assessment work on mining claims, quotes a letter from Secretary of the Interior Payne recommending such legislation. The Secretary writes this legislation is necessary because of the scarcity of labor, high cost of materials and for other reasons. The gold mining industry is in need of relief, as labor is still difficult to obtain, and the high cost of supplies and material renders very difficult the performance of the annual labor required by law for mining claims.

Mr. Rhodes referred to consideration of this matter by the committee last May, when it was hoped exemption from assessment work would not be necessary, but noted that since then "conditions in the mining states have grown worse each day." He said the mining industry was more depressed than at any time in the last fifty years. Copper, lead, zinc, and silver have decreased in price and they are being mined at a loss. Producers are continuing operation in the interest of the men in the mines, and are facing the necessity of reducing wages and cutting down the force. Gold is being mined at a loss and the production this year will be scarcely more than fifty per cent of the normal production during the last ten years. A similar reduction will be noticed in the production of silver, lead, zinc and copper.

Mr. Rhodes said the committee was informed that owners of claims are in such financial difficulties that they cannot pay the assessment charge and there is a universal demand from all sections of the country for relief.

Lighthouse Service Needs.—The Lighthouse Service requests appropriations for next year aggregating \$17,429,700, an increase of \$10,000,000 over those of the current year. The estimates include the purchase of 50,000 tons of bituminous coal at an increase of \$4 a ton, 9,000 tons of anthracite at an increase of \$2 per ton and 600,000 gallons of kerosene at an increase of three cents per gallon. The following are among the items of construction work recommended: Portsmouth, Va., coal shed, \$24,000; Hawaiian Islands lighthouse, oil house, \$22,050; Florida lighthouse district, oil house, \$2,240; Charleston district, two oil houses at \$8,462; Boston district, oil house, \$4,995; Ketchikan, Alaska, district, coal shed and gasoline house, \$3,166; Great Salt Pond, R. I., oil storage tanks, \$1,300.

Detailed Report on Webster County.—A book by this title, containing 671 pages, seventeen pages of introductory matter, thirty-five half-tones and twenty-four etchings, accompanied by a separate case of topographic and geographic maps, has just been issued by the West Virginia Geological Survey, P. O. Box 848, Morgantown, W. Va. Price, \$3. Webster county contains the northward extension of the New River coal group, as also the Kanawha group and the lower members of the Allegheny series in its northern portion.



EARNINGS.—The earnings of the carriers for the month of October recently were made public by the Interstate Commerce Commission and show some improvement over the month of September, which did not reflect the advanced rates allowed by the commission this summer to the same extent as the October earnings do because much of the freight which moved in September was billed out during August at the lower rates. In spite of this, however, the net railway operating income for October, which totalled \$91,761,090, is approximately \$20,674,000, or 18.4 per cent, below the 6 per cent which the carriers were supposed to earn under the new rates allowed by the commission. Taking the valuation of \$18,900,000,000 which was used, the operating income for October actually amounted to a return of 4.9 per cent, or about three-quarters of one per cent over that for September. The operating revenues showed an increase of 26 per cent over October, 1919, but the operating expenses increased 28.8 per cent over the same month, leaving an increase in the net income of 20.2 per cent. While the operating income was 18.4 per cent below the amount expected for the entire country, it was 29.7 per cent shy in the eastern district, 16 per cent in the southern district, and 9.2 per cent in the western district. Comparing the eastern district with October of last year we find an increase in operating revenues of 31.8 per cent, in operating expenses of 32.3 per cent and in net operating income of 38.1 per cent; while the southern district shows an increase in operating revenue of 22.1 per cent, in operating expenses of 22.9 per cent and in operating income of 24.9 per cent. In the western district the increase in operating revenue was 21.2 per cent, in operating expenses of 26.9 per cent and in net operating income of 9.5 per cent.

STATE VS. INTERSTATE RATES.—The Interstate Commerce Commission, in addition to the New York and Illinois cases, has handed down a decision in the matter of Wisconsin passenger fares, finding that the rates required by state authority are lower than the corresponding interstate fares and charges authorized by the federal commission and are unduly prejudicial to interstate passengers and unjustly discriminatory against interstate commerce. An order has also been entered requiring the carriers to bring the state rates up to the level of the interstate rates. This is in keeping with the decisions in the Illinois and New York cases and is assumed to be the line of reasoning that will be followed by the commission in all of the numerous state rate in-

By C. H. FARRELL.

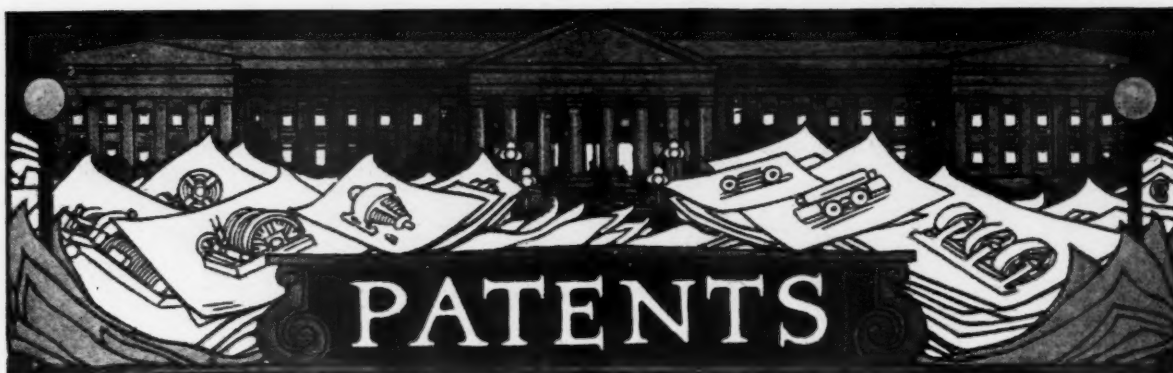
vestigations now before it. Several of them have been concluded and are before the commission for decision, notable among which are those covering the states of Ohio, Indiana, Michigan, Nebraska, Florida and Utah, which were recently argued, and inferences left by the attorneys for the states indicate that each and every one of these proceedings will be contested as far as possible. Meanwhile, the carriers in Illinois and Wisconsin have obtained preliminary injunctions forbidding the state authorities from interfering with compliance with the commission's order. It is understood that the injunctions against the carriers in New York state will be lifted, and it is probable that that case or the Illinois case will be the first one to reach the Supreme Court of the United States.

GUARANTY TO CARRIERS.—The comptroller of the treasury recently ruled that the amount of the guaranty to which carriers are entitled under the Transportation Act must be decided upon definitely and embodied in one certificate of final payment before the treasury will honor payment. The commission had issued, in some instances, a certificate for partial payment to permit the carriers to obtain money badly needed, but this ruling of the comptroller makes it impossible for the carriers to get any money until the full amount due them is determined. This is a matter of bookkeeping and will take considerable time. Accordingly, for a test case, the Grand Trunk Western Railway Company filed in the supreme court of the District of Columbia a mandamus asking that the Secretary of the Treasury be required to honor a certificate for partial payment issued by the Interstate Commerce Commission. This proceeding has recently been argued and is now before the court for final settlement, it being hoped by the carriers that the Secretary of the Treasury will be required to honor these certificates and that the court will reach this decision on the ground that what the Secretary has to do with the whole matter is merely the performance of a ministerial duty not involving the use of any discretion.

OPERATING CONDITIONS.—The latest figures available show that the number of cars loaded with revenue freight for the week ended November 20 was about 39,000 less than during the preceding week, although it exceeded the same week of 1919 by 26,000 and the same week of

1918 by 23,000. There has been a falling off in the amount of traffic handled by the railroads during November because the month of October was an exceptionally large one and the months of November and December usually show a decline in the movement of traffic.

OPERATING STATISTICS.—During September of 1920 the carriers produced in exclusive freight service 40,651,000,000 net ton miles, which exceeds September of last year by 1,973,000,000 and is 2,000,000,000 less than August. The falling off, as compared with August, is attributed to the rush of shippers to get shipments moving during August while they could take advantage of the old freight rates. The tables indicate that while the volume of traffic increased 5.1 per cent, the freight train-miles increased 6.7 per cent. The loaded car-miles show an actual decrease of .7 per cent, the increase in train-miles being in part explained by an increase of 13.0 per cent in empty car-miles. Because of the increase in empty car-miles, the average train-load shows a decrease of 1.4 per cent, while the car-load increased 6.0 per cent. As indicated, the per cent loaded of total car-miles shows a decrease of 4.0 per cent and the car-miles per car-day increased 6.4 per cent. The net ton-miles per car-day shows an increase of 7.8 per cent. The cost per freight-train-mile of locomotive repairs, enginemanship, trainmen, fuel, enginehouse expense and other locomotive and train supplies shows for the total an increase of 31.3 per cent. During the nine months period ended with September, 1920, there were produced by Class I roads in exclusive freight service, 330,964,000,000 net ton-miles, being an increase of 44,062,000,000 net ton-miles, or 15.4 per cent, over the same period of 1919; and over the same period of 1918 the increase is 6,645,000,000 net ton-miles, or 2 per cent. Train-miles increased 14.3 per cent over September of 1919 and the loaded car-miles increased 12.6 per cent. The train-load increased 1 per cent and the car-load increased 2.5 per cent. The per cent loaded of total car-miles increased 2.4 per cent; car-miles per car-day increased 8.1 per cent and the net ton-miles per car-day, the resultant of car-load, per cent of loads and car-miles per car-day, and which is the ultimate measure of freight car utilization, although not necessarily of efficiency, shows an increase of 13.3 per cent. The cost per freight train-mile selected expense accounts referred to in the comparisons for the month shows for the period an increase of 21.6 per cent over the corresponding period of 1919.



1,355,071—*Charles Allen*, El Paso, Texas.

THICKENER AND MEANS FOR REMOVING SETTLED SOLIDS THEREFROM, comprising a tank, having an actuating member movable by variation in density, and discharge means within and adjacent to the tank bottom for the settled solids and controlled by the actuating member.

1,355,414—*E. E. Nida*, Millfield, Ohio.

COAL CAGE, for use at the bottom of a mine shaft, one of the objects being to provide automatic means whereby, when a cage is brought to position to receive a car it will automatically operate mechanism for releasing one car of a trip while the remaining car or cars will be held until the cage has moved away, whereupon the next car of the trip will be brought automatically to position to be delivered to the cage when the cage is again returned for a load.

1,355,474—*Harry W. Hardinge*, New York City.

CONICAL MILL. The well known type for grinding ores in its most common form consists of two cones arranged base to base with a short cylindrical section between the two. The material is delivered into one of the cones and after grinding is discharged from the other. Another form of conical mill is conoidal in shape as in patent No. 1,202,278. In any case, the distinguishing characteristic is the tapering form of the outlet portion. This tapering form causes the material, as the mill is revolved on its longitudinal axis to assume a sort of vertical stratification or classification according to size, the pieces or masses being largest at the greatest diameter of the mill, and decreasing in size progressively towards the apex of the outlet cone as described in patent No. 908,861.

Normally the assorting of the material according to size permits only particles of the desired fineness to issue from the outlet, but if the material is fed at a faster rate it is found that some of it is composed of particles too large for the intended purpose, and in such cases it is necessary to separate the coarse material and return it to the mill. The present invention relates to this separation and return of the coarse material. There is accordingly provided outside of the conical outlet portions of the mill a conical hood into which part or all of the more or less disintegrated material is discharged either through the apex of the outlet portion, or through suitable open-

CONDUCTED BY JOHN BOYLE, JR.

ings in its wall. This hood is fastened to the outlet portion of the mill in any suitable manner so as to revolve with it. Extending back from the base of the conical or tapering hood, one or more pipes leading to the interior of the mill, preferably at a point in the base of the outlet cone, are provided to return the coarse particles.

1,355,512—*H. S. Shimizu*, Chicago, Ill. Assigned to Roberts & Schaefer Co.

APPARATUS FOR HANDLING COAL, in which there is a hoisting device and the object among other things is to provide means whereby the hoisting bucket can be simultaneously tilted and moved bodily laterally so as to bring the mouth under the hopper, while the mouth is substantially horizontal during the hoisting operation.

1,356,249—*E. A. Williams* and *A. H. Ward*, Los Angeles, Cal.

ORE CONCENTRATOR, including a frame, rakes mounted thereon, impeller blades pivotally and loosely mounted on said frame in front of said rakes, and reciprocating means adapted to swing said impeller blades away from said rakes on the backward motion and against the said blades on the forward motion.

1,356,332—*J. E. Armitstead*, Provo, Utah.

ORE SEPARATOR, including an inclined rotatable concentrating tube and a horizontal tube forming a continuation of the lower end of the first-named tube and rotatable therewith.

1,357,126—*Theodore Stretton*, Cardiff, Wales. Assigned to Haslam & Stretton, Ltd.

ELECTRIC CELL FOR MINER'S LAMPS.

1,357,318—*J. C. French*, Chicago, Ill., November 2, 1920.

MACHINE FOR HANDLING COAL OR OTHER MATERIALS.

1,357,456—*J. E. Jones*, Switchback, W. Va., November 2, 1920.

COAL-HANDLING MACHINES, comprising means for conveying the broken down coal from the coal face to a point in the rear of the coal face, of a scoop, drag and haul lines for said scoop, reeling mechanism for pulling said scoop into or out of

a gallery, and means permitting the manipulation of said lines so that said scoop returns to the rear of the re-deposited coal by passing to one side thereof and then goes in the opposite direction to attack said re-deposited coal.

1,357,466—*Erwin Moller*, Brackwade, Germany, November 2, 1920. Assigned to The Chemical Foundation.

SEPARATING SUSPENDED PARTICLES FROM GASES, consisting in subjecting the gas to the action of and ionizing discharge of electricity to charge the suspended particles and then subjecting the charged particles to the action of an electro-static field of progressively increasing strength.

1,357,508—*Mary N. McGregor*, Pasadena, California, November 2, 1920.

OIL WELL FISHING TOOL, comprising a head and plurality of fingers secured to said head and adapted to be permanently bent around and made to grapple an obstruction in the well.

1,357,510—*Nicola Pevulla*, MacDonalton, Pa., November 2, 1920.

HAND-MINING MACHINE.

1,357,556—*D. F. Haley*, Wallis, Idaho, November 2, 1920. Assigned to Metallurgical Company of America.

PROCESS AND APPARATUS FOR OIL FLotation, by continuously fluidizing the oil-containing mineral to be separated, continuously injecting a liquid jet through an atmosphere of gas directly and forcibly into a body of the fluidized ore to form a froth and continuously withdrawing the fluidized ore from the body and separating the froth from the remaining fluidized material.

1,357,587—*C. L. Peck*, New York, N. Y., November 2, 1920. Assigned to The Dorr Company.

METHOD OF AND APPARATUS FOR TREATING WASTE LIQUORS.

1,357,884—*E. McFarland* and *H. T. Lowery*, Aspen, Colo., November 2, 1920.

CONCENTRATOR.

1,357,886—*A. F. Meston*, New York, N. Y., November 2, 1920. Assigned to Research Corporation.

APPARATUS FOR ELECTRIC TREATMENT OF GASES, the combination of a flue having a

perforate and imperforate section, means for producing transversely of said flue a field of electric stress and means for intensifying said field adjacent the perforate section.

1,357,921—*J. Allingham*, Los Angeles, Cal., November 2, 1920. Assigned to Allingham Flotation Machine Co.

FLOTATION MACHINE.

1,358,005—*W. K. Liggett*, Columbus, Ohio, November 9, 1920. Assigned to The Jeffrey Mfg. Co.

CRUSHING MACHINE, comprising a stationary jaw and a movable jaw, a pitman adapted to longitudinal oscillation, a toggle lever between the pitman and the movable jaw, a second toggle lever between the pitman and an abutment, a pendulum upon which said abutment may swing, and tension rods to hold said abutment against the thrust of the toggle levers.

1,358,029—*W. W. Sloane*, Chicago, Ill., November 9, 1920. assigned to Goodman Mfg. Co.

MINE LOCOMOTIVE of the single motor, flexible truck, type of battery locomotive, in which the motor and driving mechanism is lowered, and a wheel base lengthened so that the over-all height of the locomotive including the batteries is reduced to a minimum.

1,358,028—*W. W. Sloane*, Chicago, Ill., November 9, 1920. Assigned to Goodman Mfg. Co.

MINE LOCOMOTIVE.

1,358,175—*E. Ramsey*, Birmingham, Alabama, November 9, 1920.

TIPPLE, adapted for use in connection with the dumping of mine cars raised on a cage or any like hoist or skip car to the tippie and contemplates utilizing reciprocatory rams for shifting the mine cars between the cage and the adjacent rotary dump. The rotary dumps are arranged on each side of the cage and the rams disposed to move an empty car, that has been dumped by one of the rotary dumps onto the cage and forces the loaded car last brought up on the cage into the rotary dump on the opposite side of the cage, the empty car being left on the cage. There is thus effected a double transfer of both empty and loaded cars in one operation, which leaves the cage with an empty car to be lowered, and the dump with a loaded car to be dumped.

1,358,261—*J. S. Strive*, Avalon, Pa., November 9, 1920. Assigned to Pressed Steel Car Co.

ORE CAR of the dumping type in which the sides are provided with outwardly swinging doors; an object is to provide a car which will have the maximum width within the clearance limits and yet permit of the application of the door hinges and hinge butts without increasing the over-all dimensions of the car.

1,358,293—*W. H. Corbould*, Australia.

PROCESS OF CALCINING ORES of copper, consisting in subjecting the finely pulverized ore to heat, and alternately to air under pressure and to a substantial vacuum.

1,358,378—*D. F. Lepley*, Connellsville, Pa., November 9, 1920.

REDUCED SPEED TRIP FOR HOISTS.

1,358,379—*D. F. Lepley*, Connellsville, Pa., November 9, 1920.

BRAKE CONTROL.

1,358,393—*S. F. Rathvon*, Denver, Colorado, November 9, 1920.

APPARATUS FOR REMOVING PARAFFINE FROM OIL WELLS, comprising a boiler having a space for heated water and a space for steam whereby the water is kept under pressure, of a vertical pipe connected with the said water space and extending down into the oil well, and a vertical return pipe communicating with the lower end of the first pipe and having an escape opening for the water at its other end.

1,358,678—*O. J. Zook and J. C. Marshall*, Butte, Montana, November 9, 1920.

MINE CAR.

1,358,807—*L. Wilkinson*, Sourlake, Tex., November 16, 1920.

PIPE FISHING TOOL.

1,358,984—*N. Pedulla*, MacDonalton, Pa.

MINING MACHINE.

1,359,105—*R. H. Richards*, Jamaica Plain, Mass., November 16, 1920.

METHOD OF CONCENTRATING ORES by separating the granular material from the colloid material in slimes, which consists in feeding such slime in a relative dilute condition in a shallow stream to a concentrating surface inclined sufficiently to cause the forward movement of the colloids but insufficiently to permit a substantial fall of movement of precipitated granular material.

1,359,126—*A. Stevenson and A. Logan*, Glasgow, Scotland, November 16, 1920.

COAL-CUTTING MACHINE, comprising a feeding mechanism, a winding drum serving to receive a haulage rope, a driving shaft, a speed-reducing train between the driving shaft and the drum, said train including a pair of spur gears, a pair of bevel gears, a crank and link, a pawl carrier and pawl, a ratchet wheel rotating with said drum, an adjustable shield for the pawl, whereby the working throw of the latter may be varied, and means for holding said shield in different working positions.

1,359,162—*A. L. Genter*, Salt Lake City, Utah, November 16, 1920. Assigned one-half to General Engineering Co.

1,359,413—*F. C. Mayer*, Bridgeville, Pa., November 16, 1920.

METAL TIE FOR MINE RAILWAYS.

Lesser Mining Industries.—The Bureau of Mines plans to issue a series of pamphlets on the lesser mining industries. The publications will be chiefly informational and intended to help those actively engaged in the lesser industries.

Revenue Bureau Appointments.—N. T. Johnson of Kentucky has been appointed chairman of the Committee on Appeals and Reviews of the Internal Revenue Bureau to succeed P. S. Talbert, who resigned. R. J. Service has been appointed a member. Both were connected with the bureau at the time the appointments were made.

Surplus Cartridge Case Sale.—The chairman of the Ordnance Salvage Board, War Trade Building, Washington, will receive bids January 5 on 56,250,000 pounds of surplus brass cartridge cases, analyzing 70 per cent copper and 30 per cent zinc. Quantities and locations are as follows: 104,131 pounds, Chicago; 42,017,562 pounds, Philadelphia; 44,944 pounds, Cincinnati; 8,859,904 pounds, New York; 8,829,528 pounds, Rochester; 94,625 pounds, Toledo.

Comparing Treatment Methods.—The Bureau of Mines and the North Carolina Geological and Economic Survey are co-operating in investigation of North Carolina ores. Investigations are being made in North Carolina and in the iron mines of New Jersey to compare methods of treatment.

Operating Conditions Studied.—The Bureau of Mines by request of owners investigates mines with a view to improving operating conditions. Recently the following mines were investigated: Virginia mine of the Gulf States Steel Company in Alabama; the NevaJo Weaver and Heaton mines of the Gallup-American Coal Company of New Mexico, and the Old Ben Coal Corporation of Illinois. In the latter tests were made of dust barriers.

Helium Gas.—The Solicitor of the Navy Department in his annual report recommends passage by Congress of a bill making it unlawful to export helium gas from the United States except on written permission of an authority designated by the President. Violation of the law would subject the offender to one or five years' imprisonment and a \$5,000 fine or both. The bill is pending before the House Naval Committee.

Oil Prospecting Permits.—During November 540 oil prospecting permits were reported on by the Geological Survey, making a total since July 1 of 2,741. About 1,000 acres in Wyoming were classified during the month as within producing oil and gas structures under the act of February 25, 1920, bringing the total thus classified under this act to 250,000 acres.

EDWIN E. KLEIN of Pittsburgh, who has been clerk of the House Committee on Mines and Mining during the last two years, will return to commercial life January 1, following the death of Chairman Garland of the committee. He will become sales manager for the Pittsburgh territory of the Holmes Disappearing Bed Company of New York, with offices in the Builders' Exchange, Pittsburgh. Before coming to Washington as clerk of the Mines Committee, Mr. Klein was a traveling auditor.

DR. COTTRELL SUMMARIZES BUREAU OF MINES WORK FOR FISCAL YEAR

IN A WRITTEN STATEMENT giving a summary of the numerous activities of the Bureau of Mines for the fiscal year ended June 30, Dr. F. G. Cottrell, director, quotes from his annual report as follows:

During the year the completion and dedication of the magnificent Pittsburgh station and central laboratories of the Bureau of Mines marks an epoch in its growth. For the first time the Bureau of Mines has a suitable home and central headquarters for field and investigative work, and for this reason especially the bureau should be able to begin a period of even greater usefulness to the mining and metallurgical industries.

As regards the different divisions of the bureau, mention should be made of the general satisfaction that the work of the division of mine-rescue cars and stations has given to both the coal and metal mining industries. Unsolicited letters of commendation have been received attesting the skill and knowledge of the personnel and the value of this service in time of mine disaster or fire.

As to the business and commercial organization within the bureau, the operation of the government fuel yards in the District of Columbia has proved its success and money-saving value to the government and demonstrated its help to the work of the bureau by linking up the work on coal and fuel combustion engineering with the business of advising and providing the best fuel for various government departments.

The mining division of the bureau, in addition to its regular work of advising and assisting both the coal and metal mining industries toward better and safer practices, has assisted in the codification and adoption of improved coal mine laws for the state of Utah, and has prepared and is putting into operation coal mine regulations for coal leases on government lands. In addition, new coal mine explosives have been regularly tested and added to the permissible list of the bureau for use in gaseous or dusty mines, tests and demonstrations of better methods of protection against the dangers from coal dust and methane (gas) underground have been made in the experimental mine, and the geophone, an underground listening device developed during the war, has been further perfected and adapted for use in mines.

In metal mining, the outstanding feature has been the investigations of harmful dusts and the need for better ventilation in many of the western metal mines.

FUEL DIVISION.

In the fuel division, co-operative work with outside agencies has enabled the division to make two-fold use of the money appropriated for it, and the results are leading to the saving and the more efficient use of fuel, a saving that exceeds many times the money invested by the bureau. This division also concerns itself with mechanical and electrical machinery and apparatus in and around mines, and has prepared model laws for the use of electricity underground. These laws are a milestone in the progress being made in broadening the use of electricity underground and thereby cutting down mining costs without increasing

accident hazards. Further, the development of underground storage-battery locomotives has justified the preparation by the bureau of a schedule of tests. Locomotives that pass these tests by the bureau will be approved by it for use in gaseous mines.

In the division of mineral technology the production of mesothorium as a substitute for radium for certain commercial uses has been accomplished, and researches on the use of special steels have brought decided results that will promote greater use. The progress toward the production of helium on a commercial scale in co-operation with the War and Navy Departments has been marked.

Public interest in the petroleum industry continues unabated, and the continued development of the industry is a marvel. In its work of assisting development and conservation in this industry the bureau has codified leasing and operating regulations for oil and gas lands in the public domain. So-called "peg models" have been completed, and demonstrated to producing companies in the field, and have proved their application in determining the depths to which oil wells should be bored. Through the Secretary of the Interior the bureau has assisted in bringing together natural gas producers, consumers and state commissioners with the hope of being able to conserve and prolong the life of this great natural asset. A continuing work of great practical value has been the study of the prevention of evaporation losses in the production, storage, and distribution of petroleum, which is resulting and will result in the saving of gasoline. Put into general use these methods will save each year millions of gallons of gasoline.

WORK OF EXPERIMENT STATIONS.

During the year the eight experiment stations distributed throughout the country continued their work on local and general mining and metallurgical problems.

The Alaska station has been of especial aid in helping to solve the variety of problems that arise under the peculiar conditions there.

The principal completed work of the Northwest station at Seattle has been the proving of the feasibility of reclaiming coal from local culm piles and putting this process into commercial use.

The Pacific station at Berkeley, Calif., has solved problems connected with the dead burning of magnesite—an advance that helps to make American magnesite products able to compete successfully with those imported.

In the Southwest station at Tucson, Ariz., marked progress has been made in devising processes for treatment of low grade copper ores heretofore not treated.

The Intermountain station at Salt Lake City has given most of its time to devising processes for the treatment of low grade lead and zinc ores.

At the Golden, Colo., station the radium and molybdenum work has been completed, and there has been prepared for publication a monumental work on methods of analyses and recovery of rare metals.

At the North-central station at Minneapolis there has been a continuing study of the problems of the chemical equilibrium of the blast furnace.

At the Central district station at Urbana a process has been perfected and put into actual practice whereby middle-west low grade coals are being used in certain city water-gas plants instead of the more expensive eastern cokes heretofore used.

At the ceramic station at Columbus the fact has been established that American bond clays can be used with as good effect in the manufacture of crucibles as imported bond clays. Furthermore, a method has been devised for the purification of white-china clays.

At the petroleum station at Bartlesville, Okla., a continuing contact has been established with oil producers and refiners in the many southwest oil fields, and different improvements and suggestions as outlined in the body of this report have been carried out in commercial practice.

At the Pittsburgh station the principal research results have been the determination of the constitution of coal; a discovery of what causes rifle-barrel corrosion and the manner of preventing corrosion, and the continued development of the army gas mask for commercial uses.

Through a co-operation with the New York and New Jersey tunnel commissions complete determination has been made of the amount and character of the poisonous gases given off by automobile exhausts; their effects and dangers in vehicular tunnels established; and remedies have been suggested.

A further accomplishment of the year has been the obtaining of a more complete knowledge of the forms of sulphur in coal and possible lines of attack tried out leading to its elimination.

CO-OPERATIVE WORK EXTENSIVE.

During the last few years the bureau has been building up investigative work with outside co-operating agencies in a manner unique among federal bureaus. The detailed agreements entered into differ among themselves, but the fundamentals are these:

1. Some state, or university, private or semi-private organization has problems in mining or metallurgy the solution of which would benefit itself and the public.

2. These outside agencies agree to pay part or all of the cost, both in personnel and materials, of the investigation, which is to be carried on under the direction of and according to the methods of the Bureau of Mines.

3. The Bureau of Mines retains the right to make public and print the results of all such investigations.

So successful has this method of solving problems been that at present the bureau has co-operative agreements with state agencies in eleven states, with twelve different universities and with nineteen private and semi-private agencies. And the total amount of money being spent by the outside agencies on these co-operative agreements, mostly under direction of the bureau, has amounted to approximately half a million dollars during the present fiscal year. In addition, a number of representative concerns in lead-

ing mining and metallurgical industries have appropriated money to be spent under the direction of the Bureau of Mines in production of educational motion pictures illustrating various mining and metallurgical industries. The bureau has found that these films are in great demand by the public, and that they have materially assisted the wide dissemination of information concerning the industries.

Finally, the bureau is back to a peace basis, devoting its time wholly to the needs of the industries it serves. Its work must grow and develop in proportion to the value placed on its services by those industries.

SMALL PERCENTAGE OF COAL DISPLACED BY FUEL OIL

Less than one per cent of coal was displaced by fuel oil during the period of low prices of crude oil following the armistice. This is the gist of a recent report by the Geological Survey covering a period from April, 1919, to March, 1920.

In making this investigation the Geological Survey selected representative consumers at random. Questionnaires were sent to 2,347 industrial plants and 317 electric utility plants. Of the utility plants it was found that only nine had changed over from coal to fuel-oil. Of the industrial plants it was found that 69 had substituted fuel oil for coal. In each instance it was found that the coal consumption of those plants which had turned to fuel oil represented only one per cent of the consumption of all plants to which questionnaires were sent.

NEBEKER SUCCEEDS AMES

Frank K. Nebeker, assistant attorney general, has been appointed to succeed C. B. Ames, assistant attorney general in charge of anti-trust and interstate commerce lawsuits. Heretofore Mr. Nebeker has been in charge of litigation concerning oil and other land matters and also cases involving prosecution of the I. W. W. Leslie C. Garnett of Virginia has been appointed assistant attorney general to take over the work relinquished by Mr. Nebeker.

BUREAU TO TEST OIL HEATERS

Announcement has been made that the Bureau of Mines will investigate the various oil burning heaters designed for household use, to determine their suitability for this work.

CARNEGIE INSTITUTE BUILDS COMPLETE MINES LABORATORY

The Carnegie Institute of Technology, Pittsburgh, is completing what is said to be the most elaborate coal mining laboratory in the United States. The equipment comprises a full-sized hypothetical coal mine, a mine locomotive, and all mining machinery actually used, as well as an ore-dressing and coal-washing plant.

ANTHRACITE WAGES HIGHEST

ACCORDING TO CALCULATIONS of the U. S. Bureau of Labor Statistics, contract miners as a result of the recent anthracite wage award are making more money than blacksmiths in manufacturing shops situated in fifteen out of seventeen cities, more than boilermakers in twenty-six out of thirty cities, more than electrotype finishers in twenty-five out of thirty-two cities, and more than book and job compositors in forty cities. The government tables are based on actual hourly earnings in twenty-two representative collieries.

According to the tabulated figures, anthracite employees taken as a whole, including boys, are now getting 138.6 per cent more than they did in the period 1912-1914. Hourly earnings are now 114.5 per cent above the basis established in 1916, and are 17.4 per cent above last year's rates. The miners are now asking that additional increases of 13 per cent on contract rates and 14 per cent on consideration rates be given together with \$6 as the minimum for adult day labor.

According to these figures, day men inside and outside who were getting from \$1.50 to \$3.00 per day of nine hours in 1912-1916 are now getting from \$4.20 to \$5.96 for eight hours.

Boys who got from 90 cents to \$1.40 per day of nine hours are now getting from \$2.45 to \$2.96 for eight hours.

Inside workers as a whole are now receiving on an hourly basis 132.8 per cent more than in pre-war times, 111 per cent more than in 1916 and 17.1 per cent more than last year.

Outside workers as a whole, exclusive of breaker employees, are getting 167.5 per cent more than in the pre-war period, 132.9 per cent more than in 1916, and 18.4 per cent more than last year.

Breaker employees, mostly boys, are getting 170.5 per cent more than in pre-war years, 132.9 per cent more than in 1916, and 15.8 per cent more than last year.

The contract miner, whose hourly earnings averaged 42.5 cents under the agreement in force when the European war began, averages 99.2 cents per hour under the new schedule.

This average of 99.2 cents, as given by the government, is interesting as compared with wage scales for skilled trades also reported by the government in the same issue of the Monthly Labor Review, pages 699-716.

According to the government the contract miner is averaging more per hour than do the blacksmiths in manufacturing shops situated in fifteen out of the seventeen cities for which figures are given. In these fifteen cities blacksmiths' wages run from 75 cents to 90 cents.

The contract miner averages a higher hourly rate than do boiler makers in twenty-six out of thirty cities covered. Boiler makers in Philadelphia manufacturing and jobbing shops get from 80 cents to 90 cents.

Book and job compositors—not linotype operators—in forty cities, according to the government, do not get as much per hour as the contract miner. The government finds the rate in Philadelphia for this work to be 93.3 cents for book and job work and 81.3 cents for newspaper compositors on day work.

In twenty-five out of thirty-two cities electrotype finishers and molders get less than does the contract miner.

Wages of machinists in thirty-five cities have been compiled by the government. In only four cities do skilled machinists get more than does the contract miner and in three cases they get but eight-tenths of a cent per hour more. In Philadelphia this class of machinists will average 80 cents, the Bureau of Labor Statistics finds.

Out of thirty-four cities there are but three in which molders get as much as or more than the contract miner. In Pittsburgh, home of the iron industry, iron molders get 93.8 cents per hour.

FUNDS CANNOT BE DIVERTED

The Comptroller of the Treasury has ruled that an appropriation made by Congress for a specific purpose cannot be used for any other purpose. The question came up on a request of the Civil Service Commission for the assignment to its work of one or more employees of the Denver mint. The commission made the alternative request that an employee or employees whose salaries are now covered by an appropriation for "wages of workmen" be made available for its use as district secretary. The commission desires to establish a new Denver district for which Congress has made no appropriation, the intention being to ask an appropriation at the next session.

Referring to the primary request for assignment of an employee of the Denver mint, the Comptroller of the Treasury in vetoing the request said: "The appropriation is for the uses of the mint, and if it could be applied to the purposes of the Civil Service Commission, it would make unnecessary having appropriations separately for the separate branches of the government service." He said he knew of no authority for detailing an employee of the mint to the service of the Civil Service Commission.

NEW OXYGEN APPARATUS

It is understood that George F. McCaa of the Pittsburgh laboratories of the Bureau of Mines has developed the last word in oxygen breathing apparatus. It will weigh less than twenty-nine pounds, thereby improving on the weight of the much talked of new British development. The work on this apparatus has been in progress ever since the Gibbs apparatus was brought out. The new apparatus is said to possess many advantages over the present standard apparatus.

MINES BUREAU TO ISSUE BULLETIN ON RARE METALS

The Bureau of Mines is preparing a bulletin on the analysis and determination of rare metals, including tungsten, vanadium, molybdenum, uranium, cerium, zirconium, titanium, radium and mesothorium. Ore dressing and flotation problems will be taken up in connection with the work on rare metals.

POWER PERMITS SOUGHT BY WESTERN MINING COMPANY

The Amazon Mining Company of Wallace, Idaho, has requested the Federal Power Commission to license the construction of a transmission line over the Lolo Forest, Missoula County, Montana, for mining operations.

Mining and Petroleum Digest

SILVER PRODUCER FORTUNATE

WHILE IN MANY INDUSTRIES the return of low operating costs will be contemporaneous with the return of lower prices for mine products, and therefore not such an unmixed blessing as might be desired, in the case of silver it will be altogether otherwise. For whenever the price of silver drops below \$1 an ounce, at least for a few years to come, the Pittman Act will operate automatically to lift it back. All of which inspires Herbert A. Hultman, writing in the *Morning Telegraph*, New York, to observe:

"Silver producers are welcoming the drop in price of mining costs more than any other industry, with the possible exception of the gold miners, for the simple reason that they are being offered \$1 per ounce until such time that the government believes its requirements, under the Pittman Act, have been fulfilled.

"This would mean that should the operating costs show an appreciable drop, such as is taking place in many manufacturing industries, then the silver producers would be in a better position financially. The demand for silver from other countries has taken a large fall during the present year, but in place of this, the producers have been supported by their good friend Uncle Sam. The length of time it will take to produce sufficient metal to meet this demand puts the industry in a most favorable position for nearly three years yet to come. The attractiveness of silver producing companies whose stocks are traded in seems general.

"After the government has taken its supply of the metal many are asking where will the future demand come from. This outside demand will increase by that time, and, although there is much talk about putting the silver-using countries on a gold basis, the steps along these lines will be a slow undertaking."

But, as is well known, even the Pittman Act falls far short of converting the world into a silver producer's paradise. The *American Mine Reporter*, San Francisco, believes that large financial interests in both America and Europe have kept silver quotations on an artificially low plane and makes the following suggestions:

"The same old organized interests—powerful because of their strong, far-reaching organization—continue to control the silver market, and the silver brokers and the smelters. The producers are bound hand and foot, body and soul, and are only saved from an actual crisis today by the provisions of the 'Pittman' law which enables the American producers to sell their product at \$1 an ounce.

"The annual demand of the world for silver for money and for use in the arts is several times greater than the annual production of the world, and the producers of silver should be able to command a logical price, at around at least \$1.30 per ounce, as

well as the producers of other commodities should be able to establish an artificial and absolutely 'profiteering' value through 'organization.'

"As the annual production of silver in the United States is now estimated at only approximately 52,000,000 ounces, it would not require an impossible number of millions of dollars to underwrite the entire annual production of the United States and withhold it from the market, until the logical price that silver is entitled to command is re-established and can be maintained.

"The silver situation has truly been cloudy and dark for a long time, with only a few spasmodic rays of sunshine to relieve the monotony. This could all be changed if the silver producers will rouse themselves to the occasion, which is large, indeed, and show the power that is lying dormant within their own hands.

"It may be possible that the time-honored law of 'supply and demand' will some day work out a satisfactory solution of the problem, but the sunshine can certainly be made to penetrate the clouds and darkness by pitting 'brains and organization' against 'organization and brains,' especially when the cause is supported by righteousness and merit. It is time to force the issue."

ALABAMA GRAPHITE INDUSTRY

DESTRUCTION OF THE ALABAMA graphite industry is asserted, and the cause attributed to lack of tariff protection, by William W. Ladd, of Ashland, Ala., writing in the *Manufacturers' Record*, Baltimore. Mr. Ladd, who gives the history of the Alabama industry from its very recent beginning, points out the apparent injustice of withholding from one business a protection which is given to others, saying:

"Ceylon and Madagascar graphite has proved the downfall of the Alabama product. They are able to put their graphite in New York cheaper than the Alabama refiner can do so. The reason for this is that the Alabama man has to mill his ore, while the Ceylon man does not. He employs women and children at a few cents a day to sort the stuff. During the war, when the Ceylon stuff was not available, Alabama concerns flourished, but now the market is flooded by the cheaper Ceylon product. And what hurts is that government experts have declared that the home stuff is equal, if not superior, to that produced in the foreign field. It is probable that with full development the Alabama concerns could supply the country. And now \$3,000,000 are waiting for the tariff to be placed on foreign graphite before they can make a return.

"The Alabama graphite man asks only for a fair chance, and the country owes it to him.

"The first effort made to mine graphite in the state of Alabama was some 20 years ago, when an Italian restaurant man from Birmingham came to the Ashland district and erected a five-stamp mill. Out of this man

Gillardoni's little, impracticable stamp mill has grown the graphite industry of Alabama.

"In course of time the Allen property was opened up near Gillardoni and became the largest producer of flake graphite in the state.

"Later the Allen was merged with the Quenelda, which, eight days after work was completed on the mill, burned and had to be rebuilt. With the development of the Quenelda came experienced men from Pennsylvania and the construction of the Reading plant, now shut down and decaying, a monument to the pioneers in Alabama graphite work.

"Next came the Alabama Graphite Co. It was financed by local men and operated by a northern miner. For several years the Alabama and the Quenelda dominated the Alabama field.

"Graphite is now mined extensively in Clay, Coosa and Chilton counties.

"Chemically, graphite is pure carbon; however, the No. 1 flake usually runs about 92 per cent carbon, the balance being sand and other impurities.

"Everywhere throughout the graphite district development has kept pace with the market. As the manufacturers of crucibles began to recognize the Alabama product and new uses were found for it all the time, new mines were opened up and improvements made in the older plants, so that they could take care of more stuff. The industry began to get on its feet.

"Then came the war. Prices for No. 1 flake jumped from 6 cents to 17, 18 and 20 cents. The demand doubled, and with the enhancing price men from every walk of life invested in Alabama graphite property. It is no exaggeration to say that \$2,000,000 were spent in Clay, Coosa and Chilton counties in two years. The graphite industry reached what might be termed the boom stage. Plants were built that cost their owners small fortunes. There are in view on one road alone leading from Ashland, in the distance of eight miles, 17 different plants. The business reached such an important stage that the Alabama Power Co. brought its hydro-electric power from the Coosa River and supplied almost every plant in the district.

Then came the end of the war and the fall of graphite prices. Cost of machinery advanced by leaps and bounds, and labor more than doubled. The market fell flat. Graphite dropped to 8 and 9 cents. Mills found that they could not make both ends meet under the existing conditions, and there was but one alternative. This they accepted; they shut down.

"The use of graphite in industry is still in its infancy. Few people know any of the uses beyond that of making lead pencils. Some of the more common are the making of crucibles, the making of paint, lead pencils, lubricants, foundry facings and some of the poorer grades for stove and shoe polish, and the list is growing longer every day.

"The story of Alabama graphite runs parallel with other young industries through the experimental stage, but it differs from them in this: that while others have been

protected from foreign competition by tariffs, the Alabama graphite men have been left out to succumb to the invasion of the outside product. When there is a protective tariff levied against imported graphite and the Alabama man can once more make a fair return on his money, then will the graphite business wake up."

WORLD'S SILVER PRODUCTION

THE *American Metal Market and Daily Iron and Steel Report* prints the following:

"The world's production of silver in 1920, according to an estimate submitted to the International Financial Congress at Brussels, will fall short of the pre-war rate of production by fully 29,000,000 ounces, if not more. The estimate places the 1920 probable output at 195,000,000 ounces. In 1913 the amount produced was 223,900,000 ounces.

"These figures are from an official memorandum on silver prepared for the conference, a copy of which has been obtained by the Bankers' Trust Company of New York. In view of the fact that previous reduced production has been largely responsible for the present high price of silver, the forecast of a subnormal output during the current year possesses unusual interest and significance.

"G. Findlay Shirras, director of statistics to the government of India, who prepared the memorandum for the conference, holds that uncertainty which prevailed regarding the purchase in the United States of silver at \$1 per ounce under the Pittman Act, and the falling off in China's demand may result in even a lower production than 195,000,000 ounces during the present year.

"According to his statistics Mexico alone of the world's silver-producing countries equalled in 1919 the pre-war rate of output.

"The following are his figures:

	In thousands of fine ounces		Decrease or Increase
	1913	1919	
Mexico	70,704	75,000	+ 4,296
United States	66,801	55,285	-11,516
Canada	31,525	15,675	-15,850
Other countries ...	54,787	49,040	- 5,838
	223,908	195,000	-28,908

PUBLICITY FOR THE INDUSTRY

IN LINE WITH THE SUGGESTION made in the November MINING CONGRESS JOURNAL that greater publicity be given the mining industry, and that every mine operator make it his personal business to see that this publicity is forthcoming, is the following from the *Denver Daily Mining and Financial Record*:

"Now that the election is over we can all get down to work again. The newspapers have been filled with political news and advertising which has crowded out other important matter. The mining camp newspaper reflects the activity in the mines of the camp where the newspaper is published. Now let us have more mining news, so that the nation will again be made to realize how important the mining industry is to the prosperity of the nation. With politics out

of the way, editors can devote more time to the needs of their particular sections and in this way call the attention of capital to the opportunities for profitable investment in the camp's undeveloped resources.

"An idle mining property in a camp is a poor advertisement, and if the camp newspaper will devote a little space to telling of the possibilities of this property, idle capital will seek it out and put it on the active list. There should be an active organization in every camp to adopt ways and means of advancing the interests of legitimate mining in these camps and to assist the editors in giving proper publicity to the mining interests. Why not arrange for a publicity fund to help the local newspaper properly to present the facts so that capital will know where there are opportunities for investment? A newspaper has wings and gains entrance often where an individual may find the capitalist in 'conference.'"

That the same view is shared by the business men of Reno, Nev., is evidenced by the action of the Reno Chamber of Commerce in listing mineral projects and prospects and supplying information to investors. The chamber has established what amounts to a mining bureau and is prepared to further in every way the state's resources, especially in rare metals, whose riches have to a great extent been passed by in the rush for gold and silver. The *Salt Lake City News*, under a Reno date line, describes what is being done in the hustling Nevada city:

"Listing of all mining projects and mineral prospects in Nevada, also all inquiries for various metals, has been started by the Reno chamber of commerce. The new bureau promises to become an invaluable asset to mining men and prospectors throughout the state, for it will provide them with detailed information regarding markets for their products, particularly rare metals.

"The bureau is being established by the chamber of commerce, according to Secretary Kimmel, because of the large number of inquiries received from purchasers of metals. More inquiries have been received in the last few months than ever before, practically all the inquiries being for little known metals. The present demand for rare metals has increased interest in prospecting throughout the state. Heretofore these metals have largely been overlooked in the search for gold and silver ore. Deposits of rare metals are being discovered with regularity at the present time and the chamber of commerce offers the service of its mining bureau to locators to facilitate them in finding buyers for their claims or their products."

A RICH MAN'S GAME?

WHETHER A BARREL OF MONEY, or merely a peck or some smaller measure of the same is required for successful operation of an oil shale plant even of limited capacity is a question which has been not infrequently debated. The *Shale Review*, Denver, intervenes to make the point that the

oil shale industry is not any more of a rich man's game than the oil business, in any event. We read:

"Many articles on oil shale which have been printed in recent years lose much of their effect by reason of statements of enormous amounts which it is claimed must be in hand before any company can undertake shale development. These articles commonly speak of the oil shale industry as 'a rich man's game.' One million dollars is fixed as the minimum amount necessary to be available before the treatment of shales and the production of oil can be undertaken. It happens that most of the writers who make these broad statements fail to deal in specific figures, and it would seem that some answer must be made to these extravagant statements.

"In the first place, there are very few businesses at the present time which are not a 'rich man's game,' and nothing requires so much capital as the production, refining and marketing of petroleum. The richest corporations in the United States are the oil companies. The Standard Oil Company of New Jersey was considered to be such a menace to business that Congress enacted a law which compelled this corporation to dissolve itself into numerous units. If any business in the world is a rich man's game, it certainly is the oil business. Let us see if the shale industry comes anywhere near approaching the oil business, as we now know it, in capital requirements. An oil well cannot be drilled anywhere in the United States to a depth of 3,000 feet for less than \$25,000, and thousands of wells, many of them barren, have been drilled to this depth which have cost \$100,000. In drilling an oil well the operator engages in a very hazardous undertaking. Even in proven fields he does not know whether he will obtain production or not. He stakes fortunes in the hope that his enterprise will be successful. In the production of oil from shale all the risks of discovery are eliminated. When an individual or corporation proposes to embark in the treatment of shale the volume and richness of the crude product is known indefinitely. The cost of the plant can be determined to a cent before any money is expended. Shale retorts have been built in the United States which can produce from fifty to one hundred barrels of oil daily that have cost less than one-half the average expenditure for deep holes, even in proven wells. One concern in Denver offers to build a shale retort, whose operation will be guaranteed, for \$15,000. This retort will produce fifty barrels of oil daily, and if the shale bodies are accessible and the mining conditions favorable this retort can make oil for \$1.50 a barrel and continue to make it for many years. This is not an enormous sum and is very much less than the million dollars which some writers insist must be in hand before shale can be treated profitably. There are very few business enterprises which can be undertaken for such a modest sum of money. The oil shale industry may not be a 'poor man's game,' but it is much nearer a poor man's game than drilling oil wells and many other forms of business enterprise."

COMMENT ON MINING CONGRESS WORK

THE *Denver Mining Journal* prints the following:

"It took a lot of development work to make the AMERICAN MINING CONGRESS the powerful organization it is today. Back a quarter of a century ago, about the time of its organization, it took a lot of nourishment to keep it alive and much credit is due to those old-timers who with their time and money helped to build this splendid organization up to its present strong position. It was pretty much of a prospect affair during the first few years of its existence, but it has been developed into a big producer of good for the entire mining industry. The organizers of the AMERICAN MINING CONGRESS staked their claims on a pay lead and today the AMERICAN MINING CONGRESS has been developed into a bonanza.

"Considering the magnitude of the industry and the immense wealth being produced daily from the thousands of shafts, tunnels and oil wells, it is vital that this great industry have a champion to fight for its interests. The AMERICAN MINING CONGRESS is a fighting organization, as demonstrated by the battles won by it through its Washington headquarters. It is not necessary to point out to mining men the needs of the gold producer, the tungsten shipper or the zinc operator. The officers of the AMERICAN MINING CONGRESS know what is needed and are making the proper fight down in Washington to bring greater prosperity to the mining west. Not only every mining man and oil operator, but every business man in the Rocky Mountain country should put his shoulder to the wheel and give united support to this work. Prosperity for the mining industry means prosperity for the nation, and the work of the AMERICAN MINING CONGRESS will help to make this prosperity permanent."

FROM COAL DIGGER TO PROFESSOR

FROM A COAL DIGGER in the mountains of Tennessee and Kentucky to a professorship of educational psychology in Columbia University within ten years is the record of Dr. William A. McCall. The rise of this one young man shows, more pointedly than any amount of argumentation, that opportunity is open to the mine workman just as it is to the occupant of a lowly place in any other activity. The following interesting account of Dr. McCall's experiences is taken from the Ogden, Utah, *Examiner*:

"At the age of 29 Dr. McCall has not only the distinction of being a member of the Columbia faculty but has won a considerable reputation as a lecturer in experiments in educational psychology. He also is the author of a book on educational measurements that represents pioneer research work in educational psychology.

"William A. McCall was born at Wells-ville, Tenn., January 9, 1891. The first seven years of his life were spent on a farm, but thereafter, until he was 13, he

was in the coal mines of Red Ash, Ky. One winter the family lived in a one-room log house. William worked with his father in the mines part of the time and spent the rest of his time as a trapper at fifty or sixty cents a day. His father's roving spirit kept the family on the move. From Red Ash they went to Woolridge, then to the Indian Mountain mines, to a country home near Jellico, and then back to Red Ash, embracing in all about two years. William attended various schools for brief periods as opportunity arose, but for the most part worked in the mines. His mother died in 1904. His younger brother, the only other one living in a family of four, went to live with another near Wells-ville.

"A few months later William was among strangers at Red Ash. He obtained a place with a mine foreman, went to school and paid his board by doing chores. A year later his father married again, and the family was united once more at Red Ash. William then went to Williamsburg Institute for nearly a year. Poor health prevented continuation of his work there. A few months later the family moved to a place near Pineville, Ky.

"Entering Highland College in 1906, he paid his way through the year by doing janitor work. In the summer of 1907 he earned enough by digging coal to return to Highland, which that year was merged with Williamsburg Institute. He was graduated from the united schools in 1911 with a B. S. degree.

"Up to this time he had been president of the Y. M. C. A. and literary society, a winner of a debater's medal, the editor in chief of the college magazine, a member of the tennis team and valedictorian of the senior class.

"In the fall of 1911 he entered Lincoln Memorial University as an instructor in psychology and held this post two years. For the advanced study which he did in addition to his work as teacher he received the bachelor of arts degree.

"This relation with Lincoln Memorial and his old teacher, Dr. George A. Hubbell, brought him in touch with Columbia University."

A WESTERN INTERIOR SECRETARY

ONE DISTINCTLY DISCERNIBLE NOTE in all comment respecting the make-up of the Harding cabinet is that the west should be accorded the portfolio of the Interior. Editorial expression is almost unanimous that political expediency should not even be considered in the selection of the new Secretary of the Interior. The *Mohave County Miner* (Kingman, Ariz.), discourses as follows upon the desirability of a western man for the post:

"Geographically and from the standpoint of developing natural resources the west is entitled to the portfolio of the Interior.

"Secretary Lane of the Wilson cabinet came from California and was always a champion of progressive policies in western matters.

"Subtle influences are at work to prevent the west from getting this place to which it is clearly entitled and switch it to the east.

"Most of these influences are reactionary and represent what is left of conservation policies that would tie up the west for the future.

"In the case of Alaska red tape and dilatory department methods have kept American enterprise out of that territory and population declines.

"The west should not be deprived of the position of Secretary of the Interior and it should be filled by an efficient western statesman.

"Congressman Mondell of Wyoming, Senator Fall of New Mexico, Governor Campbell of Arizona and Herbert Hoover are the type of men needed.

"We do not want our hydro-electric powers, reclamation, irrigation and forest, mineral and oil resources tied up forever."

ZINC MINE NEAR NEW YORK

That one of the finest zinc mines in the world is situated very close to New York City is not generally known, hence the *New York Post* takes occasion to point out the fact:

"At Franklin, N. J., which is only about sixty miles from New York City there is one of the finest zinc mines in the world. It is noted among the metallurgists of America and other countries as the producer of ore that contains no cadmium or other deleterious components, and that produces, when refined, a finished zinc of singular purity.

"This mine has been worked for at least seventy years, and there is an indefinite quantity of ore there. It contains the only zinc deposits of any consequence in the eastern United States."

THE INDUSTRIAL OUTLOOK

NOW, MORE SO than at any time preceding the war, the industrial outlook is the main thought in the public mind. Deflation of the currency, the so-called "consumers' strike," wage reductions, shrinkage of values, over production and under production—these and all other factors of moment to the economic well-being of the country are receiving an unwonted share of attention from the best writers and thinkers. And while there are some who take a gloomy view of the situation, the general run of opinion is that things are moving along satisfactorily. Conservatism, sane thinking, are counselled, and "sit steady in the boat" has become a most popular phrase. A typical article is found in *Savard's*, which, while dealing primarily with coal, is nevertheless applicable to the general situation:

"Briefly, it is a time to keep one's head. The larger interests are doing so, as they did when prices were on the upgrade. They refused to be stampeded by the demand for more tonnage than could be supplied at the moment, and now they, with equal propriety, refuse to be stampeded by the demand for low prices. The reason is quite plain. The 'lack of demand' stories easily run to excess, for we

all know that there is more than a million and a half tons of soft coal alone being used up every day in the week, including Sundays; and there will be that much used in any event, whatever the weather or whatever the state of business may be. The tonnage required is great beyond the dreams of coal shippers no further back than the opening of the present century and the permanent demand for fuel the year round is such that no one need be apprehensive that a radical change has developed. Consequently it is but fit and proper to assume an early increase in demand following even a slightly protracted period of no buying or light shipments."

"There is no lack of confidence," is the cheerful conclusion of a *Wall Street Journal* editorial on "Pessimistic Optimism," in which the comparative unimportance of business failures is pointed out and the need for a complete readjustment of prices to the ultimate consumer is noted. This writer says, in part:

"An important business man of the Southwest told the *Wall Street Journal* that he was 'pessimistically optimistic' on the business situation. He could not shut his eyes to the present stagnation and unemployment, but that was the extent of his pessimism. Beyond all this he saw stocks of essential goods rapidly diminishing, a growing efficiency in labor, transport congestion cleared away, an abundant supply of food and, behind it all, a banking system that has successfully carried the country past the peak of a severe credit strain. Fundamental conditions were sound, and therefore he was basically optimistic.

"This is the opinion of a man who, as vice-president of a great commercial organization, is necessarily acquainted with conditions in every state in the Union. His opinion, however, is not different from that of leading bankers of New York and elsewhere. They regard the present slowing down of business as an inevitable result of belated readjustment from war conditions, and have no fear of the future. They feel that the worst is over, but, not being prophets, do not wish to say when the change for the better will come.

"One thing at least is certain—production of essential goods is materially shrinking. Total output is probably cut 50 per cent. It is true that people are not buying as much as formerly, but there are some goods they must buy; stocks are being depleted and demand is accumulating. A revival of buying must in time take place. Let it be hoped that this will come gradually, for if it came all at once the reaction in prices would be too quick and sharp for the good of the consumer.

"Resumption of buying is, of course, necessary to revive business and give employment. The whole situation now seems to be one of prices. These are not yet adjusted to a relative value. Deflation has worked faster and gone further with the farmers than any other class. Probably \$1,000,000,000 has been cut off from their income through decline in prices. They will not buy as freely as before until other commodities come to a relative value with the things they have to sell, until a bushel of wheat or a bale of cotton buys as much of other commodities as formerly. The public in general is suspicious of all prices and stands aside when reduction sales are offered. It compares prices with cost of basic raw ma-

terials, and refuses to buy. Its attitude shows the necessity for a readjustment in costs of production."

"Everybody's doing it," is the terse comment made by *Petroleum Age* on the cutting of prices. "The dropping of prices now prevalent in the United States is not a local phenomenon," this publication asserts. "A similar collapsing of inflation is on about everywhere. Australia and Japan are getting a financial back-sliding, even as are America, Canada and Cuba. Europe has been at it for quite a while."

An identical view is taken by the *American Metal Market*, which says:

"The liquidation in commodity prices in the United States is quite apparent to everyone, but stress should be laid upon the fact that liquidation is practically universal throughout the world. It is not a phenomenon peculiar to the United States. It was inevitable that there should be liquidation, as too many people were endeavoring to get returns, whether in wages or in profits, that the economics of the situation would not afford.

"In some quarters there is a notion that this is merely a wave of sentiment, a sort of buyers' panic, and that therefore it will 'blow over' and the old course will be resumed. This looks like a very near-sighted view to take. Which is normal, reasonable wages and moderate profits, or what we have had in the past year and a half? Presumably everybody will admit that we are going to get on a normal basis, and if so the question is simply what a normal basis is.

"Of course, it is a question of degree. The principle that when this 'wave' is over there will be advances in prices is perfectly sound. The pendulum of business always swings too far, and prices always advance too far and recede too far. When price declines cease there will be a tendency of prices to advance, and it is just a question of degree, whether they will go back to where they were early this year, or merely swing back a trifle. There is Bradstreet's index number, for instance. Its high point was on February 1, 1920, 20.8690. During last month it declined from 15.6750 to 13.6263, showing easily the largest monthly decline thus far. That number will go still lower. Assume for argument that it goes down to 12.0000, which would be 40 per cent above its ten-year pre-war average, 1904 to 1913 inclusive, and then reacts. Will it go up to 13 or 14 or 15 or will it go clear back to 20, its record high?

"For a substantial reaction eventually towards higher prices those mentioned who appear to think there will be a return of extremely high prices no doubt base their opinions consciously or unconsciously, upon the tendency we in the United States have of overdoing things. If so, the fact that the liquidation is not confined to the United States but is worldwide is very important. In putting up prices this last time, we had much company, but in a future movement we should not have so much company."

OIL

LET'S SIT STEADY," is the advice given by *Petroleum Age* after listening to all that has been said and considering all that has been done about the

country's oil supply. Without taking the definite position that there has been no scarcity, or that there will be none in the future, this writer very frankly says the element of bunk has played no little part in the discussion which has been raging, particularly anent the gasoline situation. The article makes interesting reading and is reproduced in toto:

"For nearly a year, with almost all of the loudest talkers, busiest writers and speediest printers declaring that an oil famine was at hand, that gasoline would be skyward by midsummer, 1920, that rationing was at hand and everything wrong, *Petroleum Age* preached calm. It said we'd get through—that there'd be oil.

"It pleaded for optimism. It said that too much of this talk might hit the automobile a wallop that would be reflected in the petroleum industry. It intimated that this sort of publicity very easily could be costly to the industry.

"Look at the auto industry now. Look at the oil production now. Readers may go back over the files, if they wish, to check up the warnings then issued.

"And at this time, when a new sort of hysteria is looming, a hysteria that predicts too much oil, smashing prices, woe and many things, we again preach optimism. Like the famine of last summer—our trouble mostly isn't coming.

"Motor users are soon going to realize that they were bunked by the no-gasoline yarns. They'll start to buying better. The oil men who are now fussed up and excited will recall that there is a vast amount of depleted storage to be filled. Prices, very likely, will fall somewhat in sympathy with other prices.

"But—everything that oil companies spend money for will be cheaper, too. So what's all this tummy-aching about, anyway. Let's sit steady, everybody, and cut out the hysteria."

COPPER AS AN INDUSTRIAL BAROMETER

SO FAR AS the United States is concerned, copper is a better industrial barometer than is either steel or coal, according to Charles C. Cowper, writing for *The Street*, New York. The following is an excerpt from Mr. Cowper's most interesting observations:

"Thirty or forty years ago when the rapidity at which we extended our rail facilities indicated the speed at which we were opening up natural resources, steel consumption was the best indicator of the nation's industrial condition. Now, with the main network of our rail systems completed, the major portion of our iron and steel output is for meeting wear-and-tear requirements. Consequently steel, although still an excellent indicator of certain phases of our industrial activity, is no longer the sensitive pilot or advance indicator of what is about to take place industrially. Otherwise steel prices would not be still twice pre-war levels and steel output relatively good.

"Today the true indicator of fundamental business conditions in the United States is domestic consumption of copper, for today the United States is in the forefront of an industrial development based primarily upon electricity, and the great

essential in electricity, other than motive power, is copper.

"Copper is not a perfect indicator, for normally only about 45 per cent of our domestic consumption is for making wire. Another 40 per cent is used in brass-making, while the remaining 15 per cent covers sheet copper, tube copper, copper sulphate, copper oxide and other uses. It must be remembered in addition that normally approximately half the copper refined in the United States is sent abroad.

"Fortunately most of the brass goes into machinery and permanent construction connected, indirectly at least, with exploitation of our natural wealth. As junk recovery of brass is high, the amount regained through scrapping of worn-out or antiquated equipment about balances that required in making the new machinery to take its place. The fact that the proportion consumed as brass is relatively high does not tend to vitiate the delicacy of our indicator to any material extent.

"It was because copper is the true indicator of fundamental conditions in the United States that I said, in an article published about five months ago in *The Street*, that before industrial conditions can again be good in this country, all our other important industries must go through a period of price deflation similar in the main to that through which copper had gone. Moreover, just as copper is now selling at materially less price than the ten-year average preceding the war, so also must the general level of prices in the United States reach pre-war averages, and in many notable instances go temporarily below those levels, before the United States is again prosperous industrially. Increasing realization of this fact is the explanation of the steady downward trend in stock market averages.

"Readjustment must be effected mainly through employers' taking a minimum of profits, just as has been done by the copper companies, and not by cutting of wages. Otherwise serious trouble will result, for the United States depends primarily upon domestic consumption, not upon foreign buying, for its prosperity; and domestic consumption in its turn depends primarily upon our workers being paid good wages.

"Wages will not stay at present levels in general industry any more than the wages of the copper miners at Butte can remain at present levels. But just as the copper producers have brought down the price of their product before asking their miners to take less, and have shown clearly that they were willing to do their part in expediting deflation and in hastening return to such conditions that capital can again begin to think of making permanent investments in copper equipment, so also must all the other of our great industries follow the same course."

The mineral products situation is thus reviewed by the *Industrial News Bureau*:

"The industries of mining and smelting have come through the most trying conditions since the close of the world war. The immediate cutting off of war demands for all metal products and the enormous accumulations in the hands of the various governments, with the inflation of labor and material and products entering into mining operations, left all mining, smelting and reduction enterprises suspended in midair. The monetary metals remained at a fixed value

based on world-wide pre-war cost of production. Gold and silver prospecting and mining on a small scale has practically been wiped out. There is scarcely an ounce of gold, silver or platinum taken out of the earth today but at a loss, and how long can this continue? A new basis of value of these metals, fixed by law at a higher price, a bonus for production direct, or a sliding scale adjusted to an index number found from the products entering into the production of monetary metals—some such plan must be worked out if our country is to remain the premier producer of monetary metals in the world. Copper, lead and zinc, which make up the bulk of the great western metal industry, have been struggling for their existence for two years with war time wages and overhead expenses and peace time prices. European buyers who were our heavy consumers have been unable to purchase, due to exchange conditions. The mines have made an heroic effort to keep up operations and maintain wages and as a last resort copper producers are attempting to stimulate consumption by introducing copper, the everlasting metal, into more general use in home utensils, roofing, window frames and sash, automobile trimming, and for many other commercial purposes where permanency is desirable."

WORKMEN DIVIDE ALL PROFITS.

—Employees of the shops of the Newbern Iron Works and Supply Company of Newbern, N. C., are now working on a profit-sharing basis which is so out of the ordinary that it is attracting wide attention. The owners of the company are operating their machine shops and foundry, deducting the actual cost of operation minus any profit to them, and are allowing the workmen to divide all profits among themselves each week.

SEEK LEAD TARIFF.—Action urging Congress for a higher protective tariff on lead will be taken by Utah producers of the metal. A number of operators of Utah lead mines met in the office of A. G. Mackenzie, secretary of the Utah Chapter of the AMERICAN MINING CONGRESS, and outlined a plan of action. A committee consisting of Ernest Bamberger, chairman; W. Mont Ferry, Fred Cowans, E. J. Raddatz, Imer Pett and G. W. Lambourne was appointed to collect data to submit to Congress relating to the cost of producing lead.

As European countries have large stocks of the metal and Australian mines are increasing production, the outlook for the domestic industry is declared to be menacing unless the present tariff of three-quarters of a cent a pound is increased. Due to the rate of exchange, European or Australian stocks can be sold in the United States at the present price at a large profit.

Nevertheless, the present price of 5 cents per pound, after settlement is made on that basis with local producers by smelters, is said to be considerably less than the cost of production.

MANGANESE DEPOSITS IN ARKANSAS

MANGANESE is one of the minerals that was widely sought during the World War, when the restriction of imports of foreign ores caused a great demand for domestic ores, for which very high prices

were paid. The search disclosed many undeveloped deposits in the United States, some of which were mined. The United States Geological Survey made a national survey of our manganese deposits and has issued a number of reports describing them. A brief report just issued describes the manganese deposits of the Batesville district, in north-central Arkansas, which have been worked intermittently since 1849 and have yielded both high-grade and low-grade ore for metallurgical use. The output of high-grade ore in this district from 1849 to 1918, inclusive, was 75,985 tons, and that of low-grade ore was 69,237 tons. Mining in the district was especially active during the war.

This report, which is by H. D. Miser, is entitled "Preliminary report on the deposits of manganese ore in the Batesville district, Ark.," and is published as Bulletin 715-G of the United States Geological Survey. It may be had free of charge on application to the Director, United States Geological Survey, Washington, D. C.

SHIP BOARD RECEIVES COAL BIDS

Bids for supplying the United States Shipping Board with coal for the ensuing year range from \$6 to \$12 per ton. The bidders include:

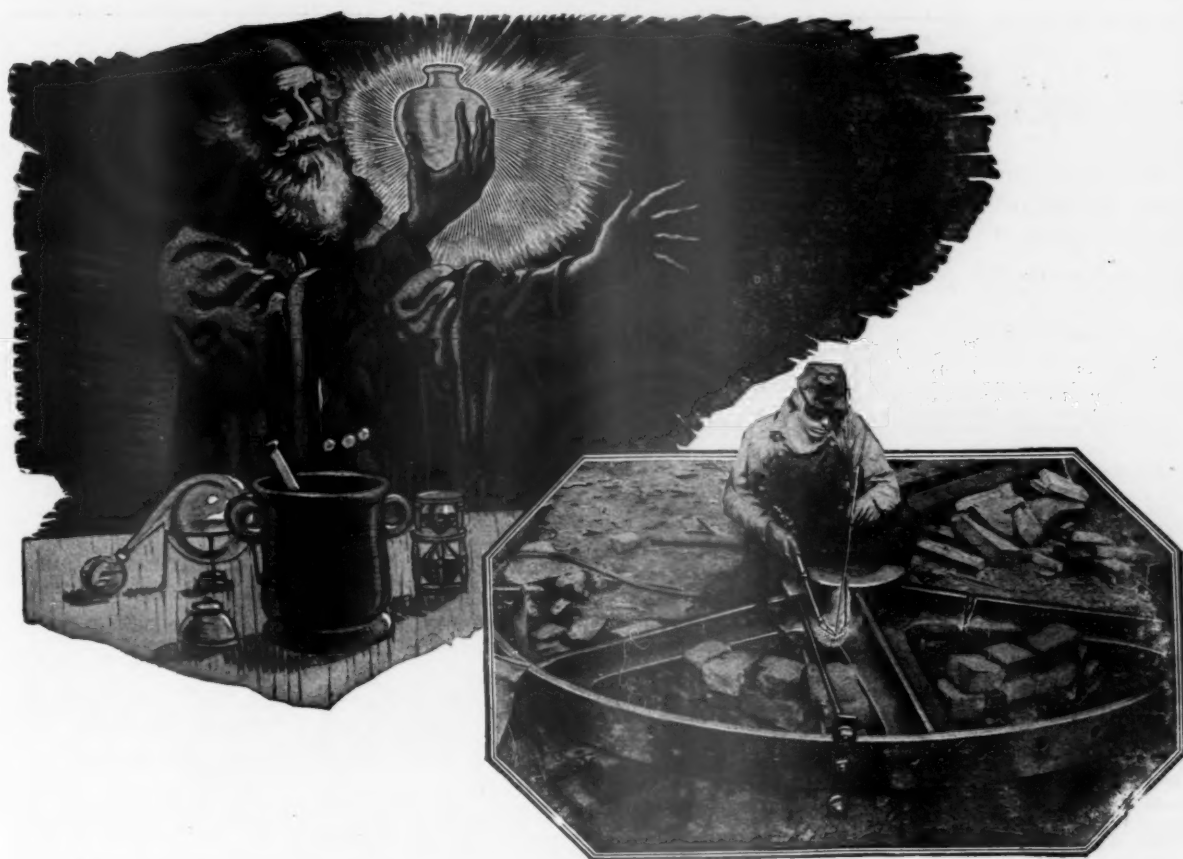
G. Patchel & Co., Philadelphia; Court-right Demmick & Co., Philadelphia; Lake and Export Coal Corporation, Norfolk; Penn Fuel Co., New York; W. H. Bradford & Co., Philadelphia; Maryland Coal and Coke Co., Philadelphia; Universal Transportation Co., New York; Ainsworth Coal and Iron Co., Philadelphia; L. Stern, Baltimore; Charles Allen, Charleston, S. C.; F. Gillmore & Co., Pensacola; Horace Turner, Mobile, Ala.; Jewett Biglow & Bros., Baltimore; U. S. Fuel Corporation, Chattanooga; Central Pocahontas Coal Co., Norfolk; Mobile Coal Co.; Southern Coal Co., Jacksonville; Southern Coal Co., Birmingham; Maritime Coaling Co., Boston; Logan Coal and Supply Co., Jacksonville; Petros Coal Co., Petros, Tenn.; Taggart Coal Co., Savannah; Gulf Coal Co., Mobile; W. C. Atwater, Inc., New York; New Orleans Coal Co.; Fort Dearborn Coal & Export Co., N. Y.; W. G. Coyle & Co., New Orleans; Standard Fuel Shipping Co., Savannah; Godley & Griffen, Savannah; George D. Harris & Co., N. Y.; Hartwell & Lester, Inc., N. Y.; Ship-Rode Coal Timber Mfg. Co., Pittsburgh; Chesapeake and Ohio Coal & Coke Co., N. Y.; Commercial Coal Co., N. Y.

COAL MINE FATALITIES

COAL MINE FATALITIES during September, 1920, in all states except Kentucky, from which the Bureau of Mines did not receive a report, totalled 172, or two more than a year ago. The increase was 1.2 per cent. Estimating the September output at 54,029,000 tons, the fatality rate was 3.18 per million tons produced, a decrease from the fatality rate of 3.62 for September during the last seven years.

NINE MONTHS' COAL OUTPUT

COAL PRODUCTION during the first nine months of 1920 was 462,933,000 tons, an increase of 54,288,000 tons over the corresponding period of 1919. Exports totalled 30,503,066 short tons, valued at \$230,281. Of this export tonnage, 26,387,215 tons was bituminous and 4,115,851 tons was anthracite.



The age-old dream of the alchemist is realized because of Linde

THROUGH countless centuries man dreamed of transmuting the baser metals into gold. Patiently, laboriously, often consecrating their very lives to the work, the Alchemists of old toiled on toward their elusive goal.

As late as 1873 James Price, the last of the Alchemists, sought death by his own hand rather than acknowledge the failure of his experiments.

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By producing uniformly pure oxygen in industrial volume, they have made it possible for oxy-acetylene welders and cutters to reclaim thousands of tons of metal machinery annually—turning base metal into gold—a saving in money far in excess of any vision of wealth dreamed of by ancient philosophers.

And Linde does more than supply oxygen of absolutely uniform purity. Thanks to a chain of twenty-nine plants and forty-six warehouses it delivers Linde Oxygen when and where it is wanted in any volume.

LINDE AIR PRODUCTS COMPANY

Carbide and Carbon Building, 30 East 42nd Street, New York

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THE LARGEST PRODUCER OF OXYGEN IN THE WORLD

BUYER'S DIRECTORY

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Irrington Smelting & Refining Works, Irvington, N. J.

AERIAL TRAMWAYS

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AIR COMPRESSORS

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General Electric Co., Schenectady, N. Y.
Worthington Pump & Machinery Corp., 115 Broadway, New York City.

AMALGAMATORS

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Mine Equipment & Supply Co., Denver, Colo.

ARMATURES

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Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa.

ARCHITECTS

Shourds-Stoner Co., Inc. Terre Haute, Ind.

ASBESTOS PRODUCTS

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Walter E. Burlingame, 1736 Lawrence St., Denver, Colo.
Indiana Laboratories Co., Hammond, Ind.
Ledoux & Co., Inc., 99 John St., New York.
Pennsylvania Smelting Co., Pittsburgh, Pa.
W. L. Piers, 428 18th St., Denver, Colo.
Thompson Balance Co., Denver, Colo.

AUTOMATIC CAR CAGERS

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AUTOMATIC COAL SKIP

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Roberts & Schaefer Co., McCormick Bldg., Chicago, Ill.

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Dinwiddie Steel & Mfg. Co., St. Louis, Mo.

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Thompson Balance Co., Denver, Colo.

BALL MILLS

Mine Equipment & Supply Co., Denver, Colo.
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Goodrich Co., B. F., Akron, Ohio.
Jeffrey Mfg. Co., 958 N. Fourth Avenue, Columbus, Ohio.
Link-Belt Co., 910 S. Michigan Ave., Chicago, Ill.
U. S. Rubber Co., New York City.

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U. S. Rubber Co., New York City.

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Jeffrey Mfg. Co., Columbus, Ohio.
Link-Belt Co., 910 S. Michigan Ave., Chicago, Ill.

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du Pont Powder Co., The E. I., Wilmington, Del.
Hercules Powder Co., Wilmington, Del.
Illinois Powder Co., St. Louis, Mo.
National Fuse & Powder Co., Denver, Colo.

BLOWERS

General Electric Co., Schenectady, N. Y.

BOILERS

Allis-Chalmers Mfg. Co., Milwaukee, Wis. (feed pump).
Mine Equipment & Supply Co., Denver, Colo.

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BRATTICE CLOTH

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Vulcan Iron Works, Wilkes-Barre, Pa.
Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa.
Wilnot Engineering Co., Hazleton, Pa.

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General Briquetting Co., 25 Broad Street, New York City.
Jeffrey Mfg. Co., Columbus, Ohio.

BUCKETS (Clam Shell)

Link-Belt Co., 910 S. Michigan Ave., Chicago, Ill.

BUCKETS (Elevator)

Hendrick Manufacturing Company, Carbondale, Penna.
Jeffrey Mfg. Co., Columbus, Ohio.
Link-Belt Co., 910 S. Michigan Ave., Chicago, Ill.
Stephens-Adamson Mfg. Co., Aurora, Ill.

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American Mine Door Co., Canton, Ohio.

CABLEWAYS

Jeffrey Mfg. Co., Columbus, Ohio.
Lidgerwood Mfg. Co., 96 Liberty St., New York City.

CAGES

Connellsville Mfg. & Mine Supply Co., Connellsville, Pa.
Holmes & Bros., Robert, Inc., Danville, Ill.
Lidgerwood Mfg. Co., 96 Liberty St., New York City.

CAGE (Safety Appliances)

Connellsville Mfg. & Mine Supply Co., Connellsville, Pa.

CAR DUMPS

Car-Dumper & Equipment Co., Chicago, Ill.
Jacobsen & Schraeder, Inc., Marquette Bldg., Chicago, Ill.
Link-Belt Co., 910 S. Michigan Ave., Chicago, Ill.

CAR AND CAR WHEELS

Hockensmith Mine Car Co., Penn Station, Pa.
United Iron Works Co., Kansas City, Mo.

CASTINGS

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Jeffrey Mfg. Co., 958 N. Fourth Street, Columbus, Ohio.
Link-Belt Co., 910 S. Michigan Ave., Chicago, Ill.
The Lunkenheimer Co., Cincinnati, Ohio.
Mine Equipment & Supply Co., Denver, Colo.

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Ludlow-Saylor Wire Co., The, St. Louis, Mo.

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Link-Belt Co., 910 S. Michigan Ave., Chicago, Ill.
Morse Chain Co., Ithaca, N. Y.
Stephens-Adamson Mfg. Co., Aurora, Ill.

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Roessler & Haaslach Chemical Co., 100 William St., New York.

CHEMISTS

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Walter E. Burlingame, 1736 Lawrence St., Denver, Colo.
Hunt, Robt., & Co., Insurance Exchange, Chicago, Ill.
Indiana Laboratories Co., Hammond, Ind.
Ledoux & Co., A. R., Inc., 99 John St., New York City.
W. L. Piers, 428 18th St., Denver, Colo.
Richards, W. J., Denver, Colo.
Western Chemical Co., Denver, Colo.

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Automatic Reclosing Circuit Breaker Co., The, Columbus, O.
General Electric Co., Schenectady, N. Y.

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Shourds-Stoner Co., Inc., Terre Haute, Ind.

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Electrical Railway Equipment Co., Cincinnati, Ohio.
Electric Service Supplies Co., 17th and Cambria Sts., Phila., Pa.

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Lehigh Coal & Navigation Co., Philadelphia, Pa.
Thorne, Neale & Co., Philadelphia, Pa.

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Connellsville Mfg. & Mine Supply Co., Connellsville, Pa.
Jeffrey Mfg. Co., Columbus, O.
Link-Belt Co., 910 S. Michigan Ave., Chicago, Ill.
Stephens-Adamson Mfg. Co., Aurora, Ill.

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Jeffrey Mfg. Co., Columbus, Ohio.
Link-Belt Co., 910 S. Michigan Ave., Chicago, Ill.

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Roberts & Schaefer Co., McCormick Bldg., Chicago, Ill.

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Link-Belt Co., 910 S. Michigan Ave., Chicago, Ill.
Roberts & Schaefer Co., McCormick Bldg., Chicago, Ill.
Stephens-Adamson Mfg. Co., Aurora, Ill.

COAL LOADING MACHINES

Myers-Whaley Company, Knoxville, Tenn.

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Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Goodman Mfg. Co., Chicago, Ill.
Jeffrey Mfg. Co., Columbus, Ohio.
Roberts & Schaefer Co., McCormick Bldg., Chicago, Ill.

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Jacobsen & Schraeder, Inc., Marquette Bldg., Chicago, Ill.
Link-Belt Co., 910 S. Michigan Ave., Chicago, Ill.
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Deister Concentrator Co., The, Fort Wayne, Ind.
Jacobsen & Schraeder, Inc., Marquette Bldg., Chicago, Ill.
Link-Belt Co., 910 S. Michigan Ave., Chicago, Ill.
Stephens-Adamson Mfg. Co., Aurora, Ill.

COAL WASHING PLANTS

Roberts & Schaefer Co., McCormick Bldg., Chicago, Ill.

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The Lunkenheimer Co., Cincinnati, Ohio.
Nicholson, W. H., & Co., Wilkes-Barre, Pa.
Ohio Brass Co., Mansfield, Ohio.

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Electric Service Supplies Co., 17th and Cambria Sts., Phila., Pa.

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COMPRESSORS, AIR

General Electric Co., Schenectady, N. Y.

CONCENTRATORS (Magnetic)

Dings Magnetic Separator Co., 100 Smith St., Milwaukee, Wis.
Worthington Pump & Machinery Corp., 115 Broadway, New York City.

Why the Fort Wayne?

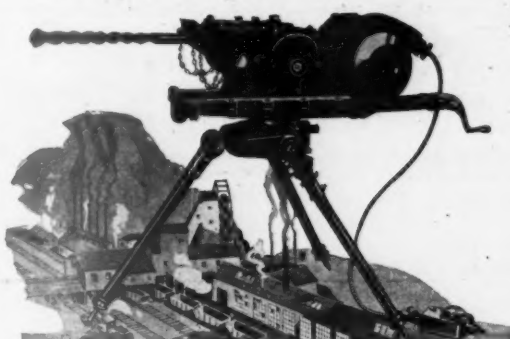
THE adaptability of the Fort Wayne Electric Rock Drill is a constant source of enthusiastic comment.

The Fort Wayne may be operated on either direct or alternating current. Thus it is ready for business wherever electric current is available. You can hook it onto the trolley within a few minutes after it is unloaded.

As one rock man said, "We can stick it up, attach a line to the trolley, another to the rail, and go right ahead." And the way those rotary hammers tear into the rock is a joy to see. No power wasted—just pure energy properly directed—1700 blows a minute—each blow 150 pounds to the square inch.

Moving entails no expense or burden—one man can do it if necessary. "For many jobs," says a mine superintendent who knows, "we don't even have to take the Wayne off the truck."

There are many other reasons why you cannot afford to get along without the Fort Wayne Electric Rock Drill if you have any amount of rock work to do.



Let us tell you all about this great Drill and its work—our literature will prove interesting and instructive, and we'll gladly send it for the asking.

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Hockensmith Wheel and Mine Car Co.

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Steel—Composite—Wood

Awarded Gold Medal Panama-Pacific Exposition for Mine Cars, Wheels and Oiling System

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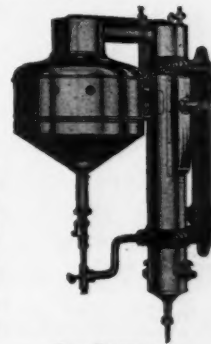
BATTERIES THAT FAIL:

Storage Battery Efficiency Demands Pure Water

"The Better the Still the Better the Water"

Operated With Gas, Gasoline, Kerosene, Steam or Electricity

How many batteries die prematurely? The failure is often hastened by impure water. Iron, chlorine and nitrates all increase local action and the deterioration of the elements.



Gas Operated

The Improved Automatic Rochlitz Water Still automatically supplies a stream of pure distilled water

Production costs are a minimum. Send for figures and testimonials.

Standardized by several hundred mines

With distilled water on hand you can purchase C. P. Acid and reduce it to proper battery strength, thus saving transportation charges on carboys and water.

Manufactured by

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Manhattan Bldg. Chicago, U. S. A.

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 Worthington Pump & Machinery Corp., 115 Broadway, New York City.

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 Wellman-Lewis Co., Hibernian Bldg., Los Angeles, Calif.

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 Link-Belt Co., 910 S. Michigan Ave., Chicago, Ill.
 Stephens-Adamson Mfg. Co., Aurora, Ill.
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 American Pulverizer Co., 18th and Austin Sts., St. Louis, Mo.
 Jeffrey Mfg. Co., 958 N. Fourth St., Columbus, Ohio.
 Link-Belt Co., 910 S. Michigan Ave., Chicago, Ill.
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 Connellville Mfg. & Mine Supply Co., Connellville, Pa.
 Jeffrey Mfg. Co., 958 N. Fourth St., Columbus, Ohio.
 Link-Belt Co., 910 S. Michigan Ave., Chicago, Ill.
 Stephens-Adamson Mfg. Co., Aurora, Ill.
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 Roberts & Schaefer Co., McCormick Bldg., Chicago, Ill.
 Shourds-Stoner Co., Inc., Terre Haute, Ind.
 Wellman-Lewis Co., Hibernian Bldg., Los Angeles, Calif.

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DRAG LINES

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DRIFTERS, DRILL

Denver Rock Drill Mfg. Co., Denver, Colo.

DRILLS (Blast Hole)

Denver Rock Drill Mfg. Co., Denver, Colo.

DRILLS, CORE

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 Union Electric Co., Pittsburgh, Pa.

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DRILLS (Hand Operated Coal)

Ohio Brass Co., Mansfield, Ohio.

DRILLS, PNEUMATIC

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DRILLS, PROSPECTING

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DRILLS, ROCK

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 General Electric Co., Schenectady, N. Y.
 Union Electric Co., Pittsburgh, Pa.

DRILL STEEL SHARPENERS

Denver Rock Drill Mfg. Co., Denver, Colo.

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DRUMS (Magnetic)

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DRYERS, ORE

Allis-Chalmers Mfg. Co., Milwaukee, Wis.

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Connellsville Mfg. & Mine Supply Co., Connellsville, Pa.

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 Du Pont Powder Co., The E. I. Wilmington, Del.
 Hercules Powder Co., Wilmington, Del.
 Illinois Powder Co., St. Louis, Mo.
 National Fuse & Powder Co., Denver, Colo.

DYNAMOS

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 Goodman Mfg. Co., Forty-eighth Place and Halstead St., Chicago, Ill.
 Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa.

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 General Electric Co., Schenectady, N. Y.
 Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa.

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 Link-Belt Co., 910 S. Michigan Ave., Chicago, Ill.

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 Ohio Brass Co., Mansfield, Ohio.
 Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa.

ELECTRIC MINE SUPPLIES

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 General Electric Co., Schenectady, N. Y.
 Ohio Brass Co., Mansfield, Ohio.

ELECTRICAL SUPPLIES

Electric Service Supplies Co., 17th and Cambria Sts., Phila., Pa.
 General Electric Co., Schenectady, N. Y.
 Union Electric Co., Pittsburgh, Pa.
 Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa.

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 Link-Belt Co., 910 S. Michigan Ave., Chicago, Ill.
 Stephens-Adamson Mfg. Co., Aurora, Ill.

ELEVATORS, BUCKET

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 Link-Belt Co., 910 S. Michigan Ave., Chicago, Ill.
 Stephens-Adamson Mfg. Co., Aurora, Ill.

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 Link-Belt Co., 910 S. Michigan Ave., Chicago, Ill.
 Stephens-Adamson Mfg. Co., Aurora, Ill.

ELIMINATORS

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ENGINES

Lidgerwood Mfg. Co., 96 Liberty St., New York City.
 Worthington Pump & Machinery Corp., 115 Broadway, New York City.

ENGINES, GAS AND GASOLINE

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
 Mine Equipment & Supply Co., Denver, Colo.
 Worthington Pump & Machinery Corp., 115 Broadway, New York City.

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 Mine Equipment & Supply Co., Denver, Colo.
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 Jacobsen & Schraeder, Inc., Marquette Bldg., Chicago, Ill.
 Jeffrey Mfg. Co., 958 N. Fourth St., Columbus, Ohio.
 Link-Belt Co., 910 S. Michigan Ave., Chicago, Ill.
 Roberts & Schaefer Co., McCormick Bldg., Chicago, Ill.
 Wellman-Lewis Co., Hibernian Bldg., Los Angeles, Calif.

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Atlas Powder Co., Wilmington, Del.
 Du Pont Powder Co., Wilmington, Del.
 Hercules Powder Co., Wilmington, Del.
 Illinois Powder Co., St. Louis, Mo.
 National Fuse & Powder Co., Denver, Colo.

FILL THE VACANCY THRU EXPERTS In Engaging Men

Better men, because we have records of several thousand from which to choose and have thoroughly investigated their records and references.

*Business Men's
Clearing House*
Chambers Commerce Bldg. Denver

Automatic Reclosing Circuit Breaker

The Circuit Breaker with Brains

KNOWS

NOT ONLY WHEN
TO OPEN

BUT ALSO

WHEN TO
RECLOSE

AND DOES IT

AUTOMATICALLY

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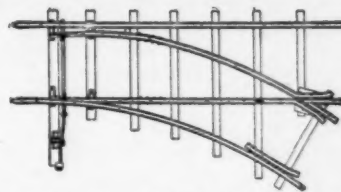
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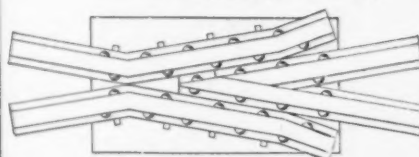
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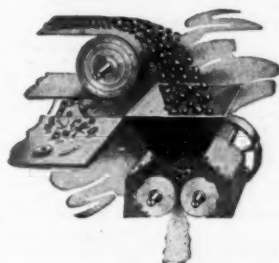
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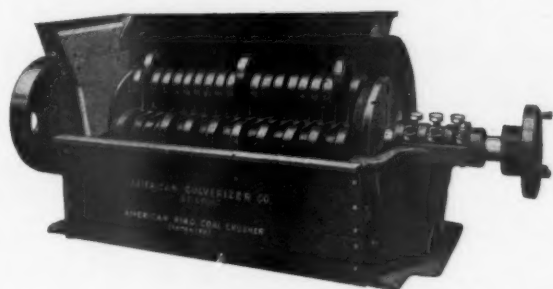
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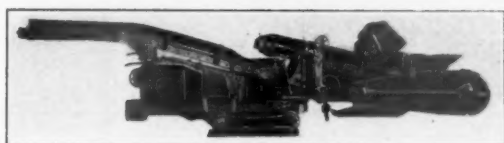


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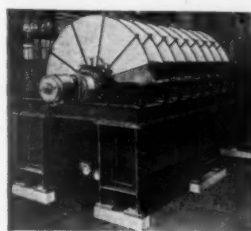
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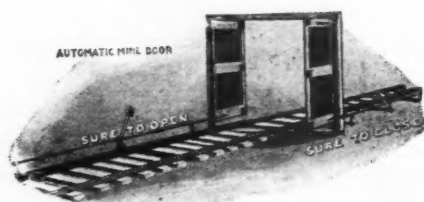
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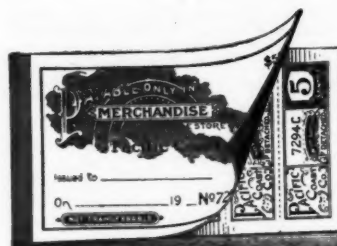
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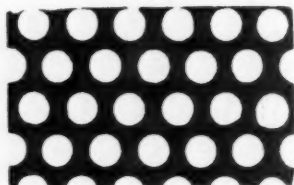
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First—Safety and efficiency in mining operations.

Second—Intelligent conservation with a view to the highest utilization and the prevention of waste of mineral resources.

Third—The protection of mining investors against fraud and misrepresentation; the stimulation of investment in real mining and to demonstrate that mining is a business and not a gamble.

Fourth—Uniformity in state laws governing mining operations carried on under like conditions.

Fifth—Such federal cooperation through research and investigation as will solve those problems of production, treatment and transportation which are essential to the highest development of the Mining Industry.

Sixth—A solution of the economic problems underlying the coal industry.

Seventh—A more complete cooperation between miner and operator through the settlement of disputes by the economical rule of reason, rather than by the wasteful method of strikes and lockouts, and to foster in every possible way those conditions which make for just, considerate and helpful employers and loyal workmen.

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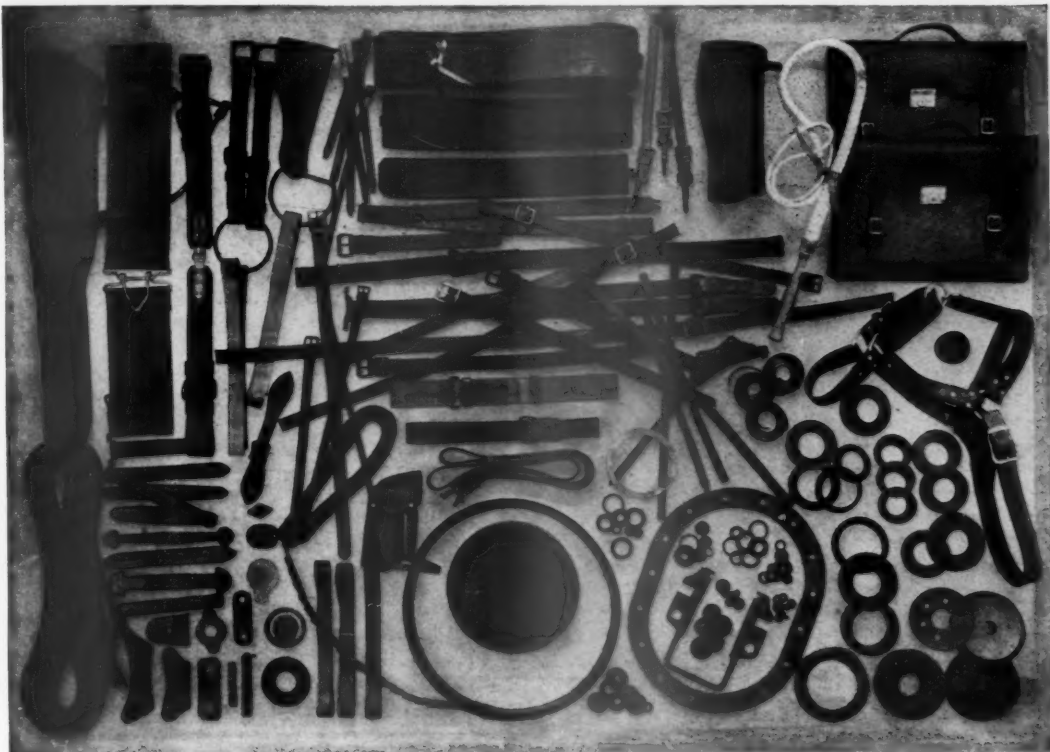
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